VOLUME XL NUMBER ONE

# THE NATIONAL GEOGRAPHIC MAGAZINE

JULY, 1921

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IN FULL COLOR

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PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

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ARTICLES and photographs are desired. For material which the Magazine can use, generous remuneration is made. Contributions should be accompanied by an addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resultant given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. This area has been created a National Monument by proclamation of the President of the United States.

THE Society organized and supported a party, which made a three-year study of Alaskan glaciers.

GEOLOGISTS were sent to study the Mt. Pelée, La Soufriere, and Messina disasters.

AT AN expense of over $50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization which was waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the historic expedition of Admiral Peary, who discovered the North Pole.

NOT long ago The Society granted $25,000, and in addition $75,000 was given by individual members through The Society to the Federal Government when the congressional appropriation for the purchase was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people and incorporated into a National Park.

THE Society is conducting extensive explorations and excavations in Northwestern New Mexico, which was one of the most densely populated areas in North America before Columbus came, a region where prehistoric peoples lived in vast communal dwellings whose ruins are ranked second to none of ancient times in point of architecture, and whose customs, ceremonies, and name have been engulfed in an oblivion more complete than any other people who left traces comparable to theirs.


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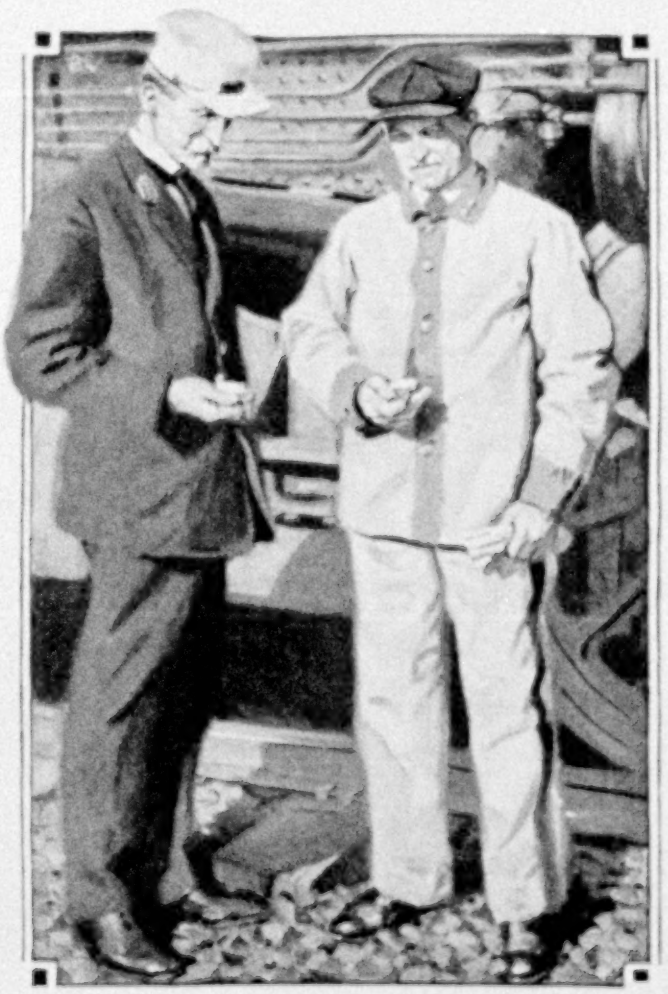

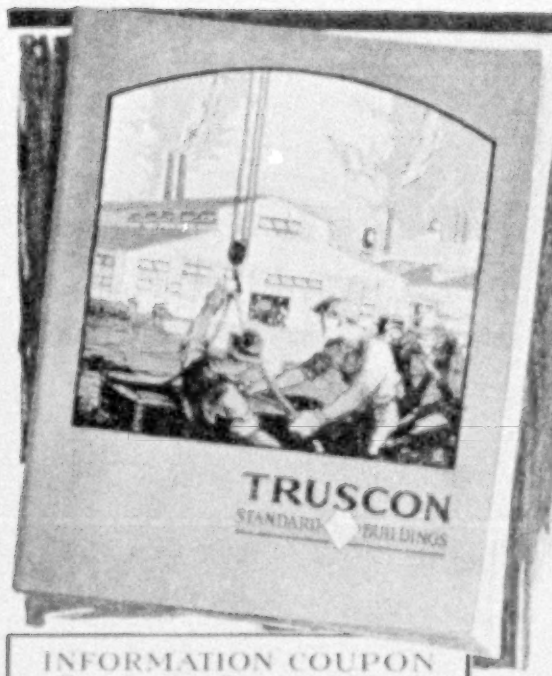


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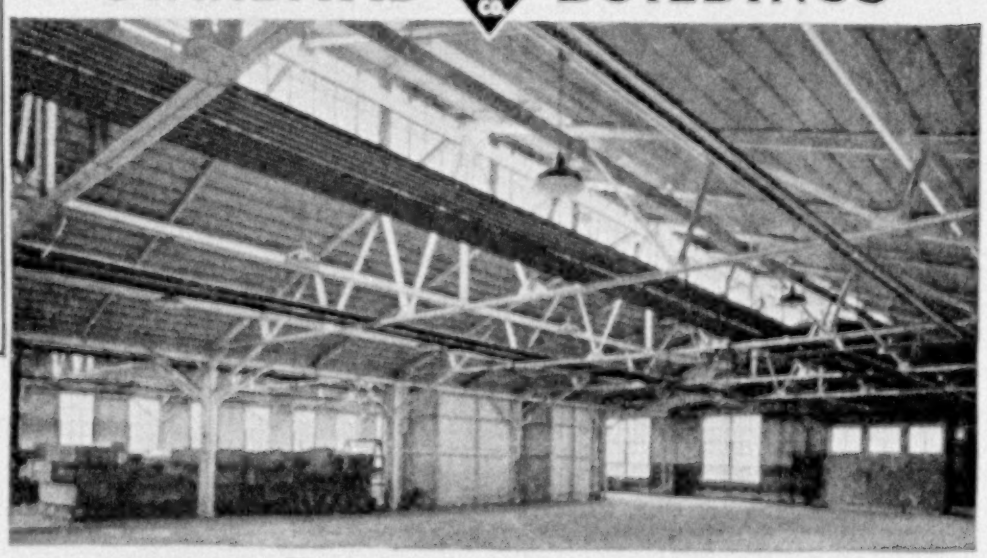

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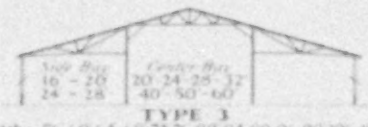


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Widths — 56'-60'-64'-68'-72'-76'-80'-84'-88'-96'-98'-106'-108'-116'

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Widths — 80'-100'-112' (4 Bays @ 20'-25' or 28')

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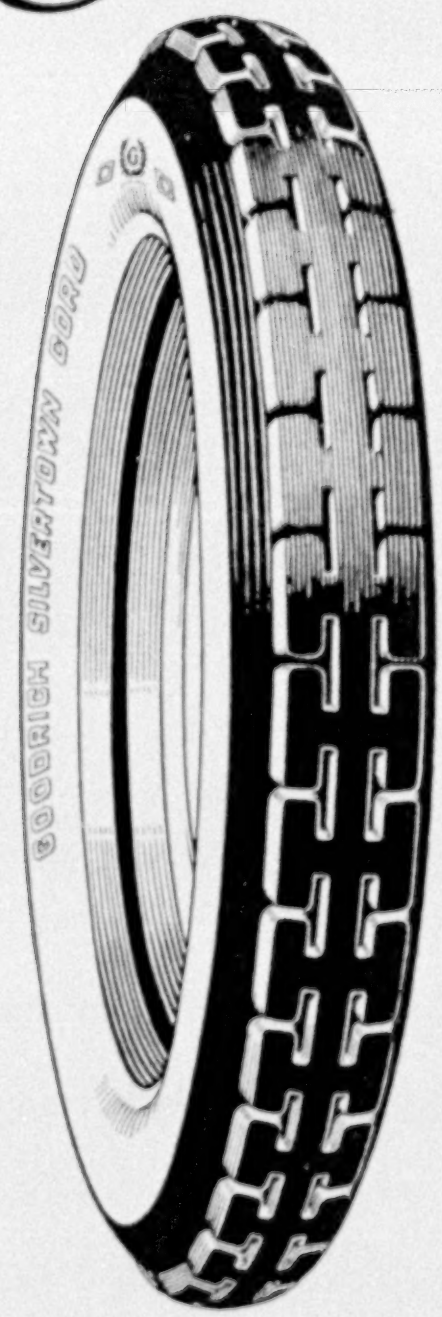


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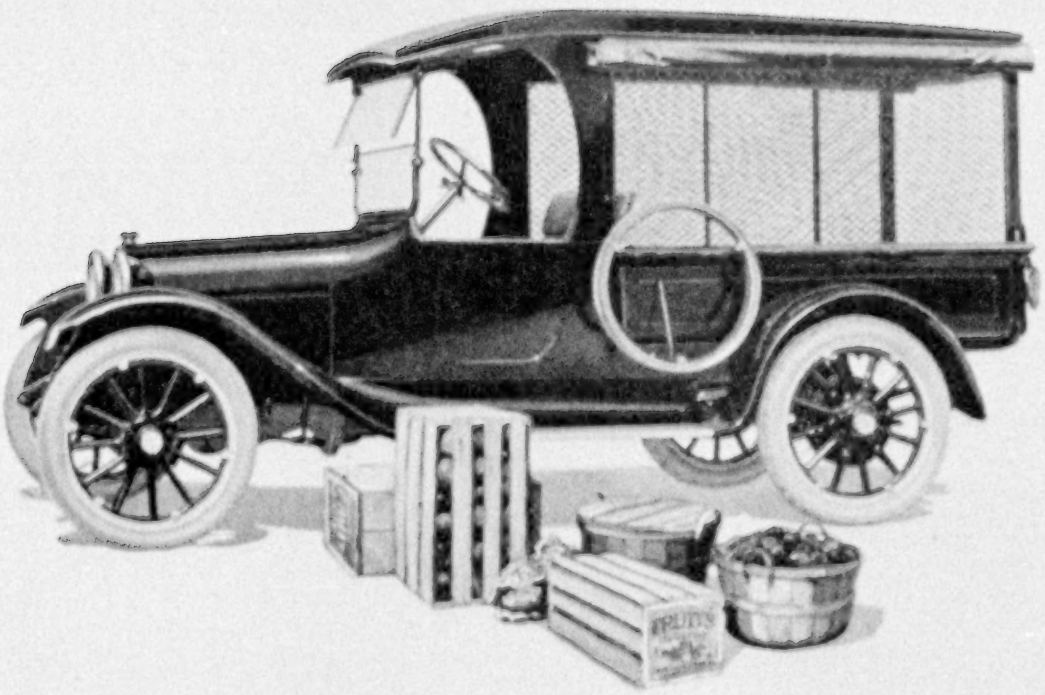


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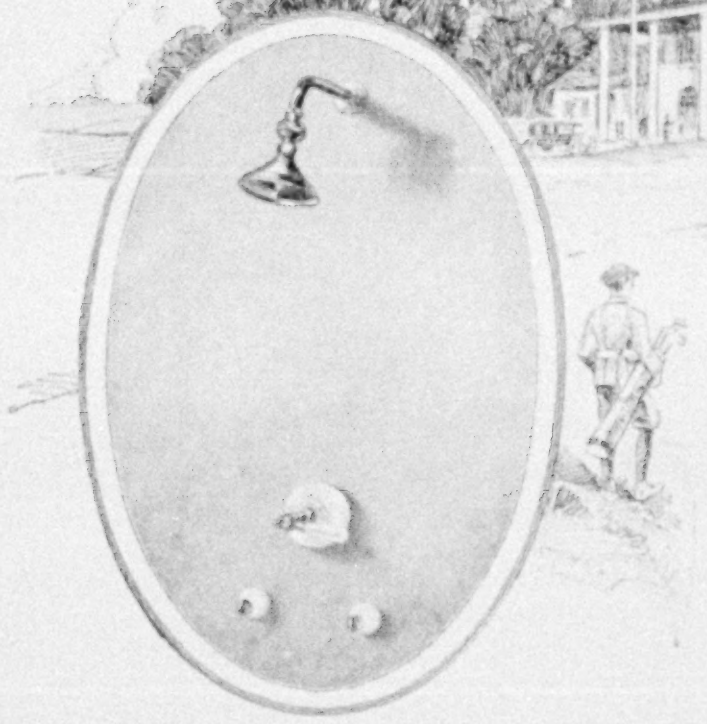

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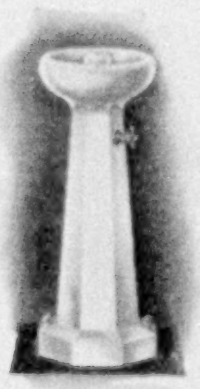

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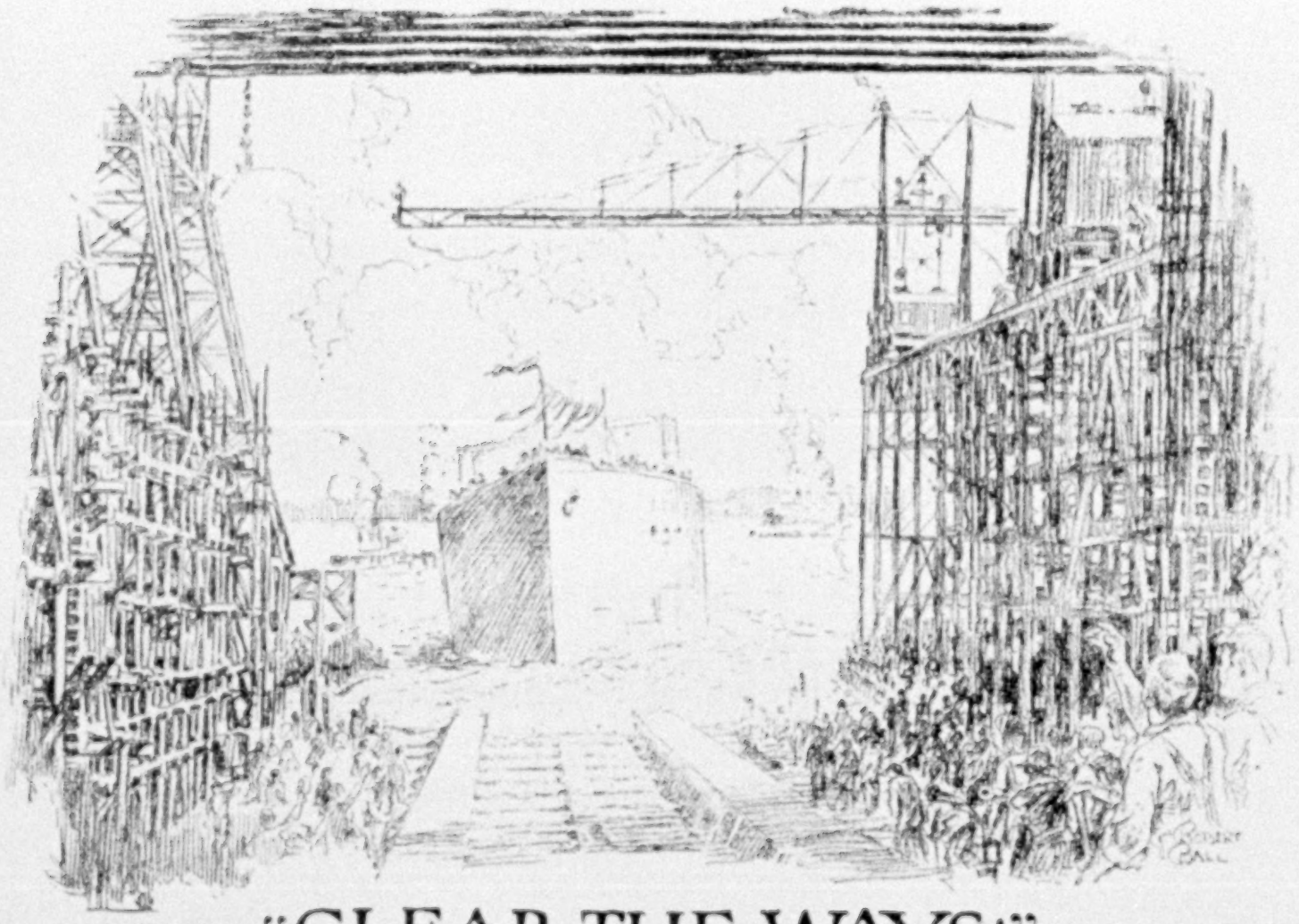

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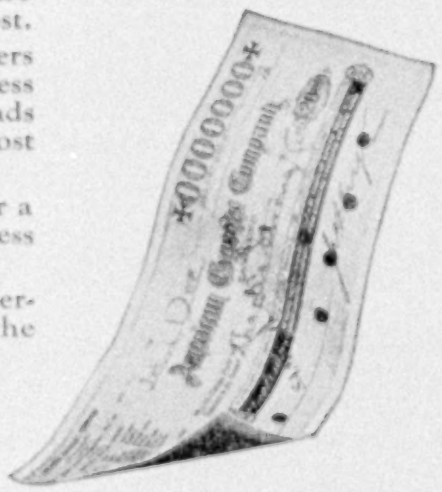


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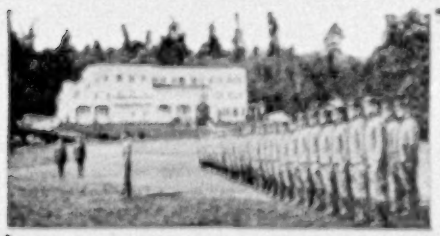

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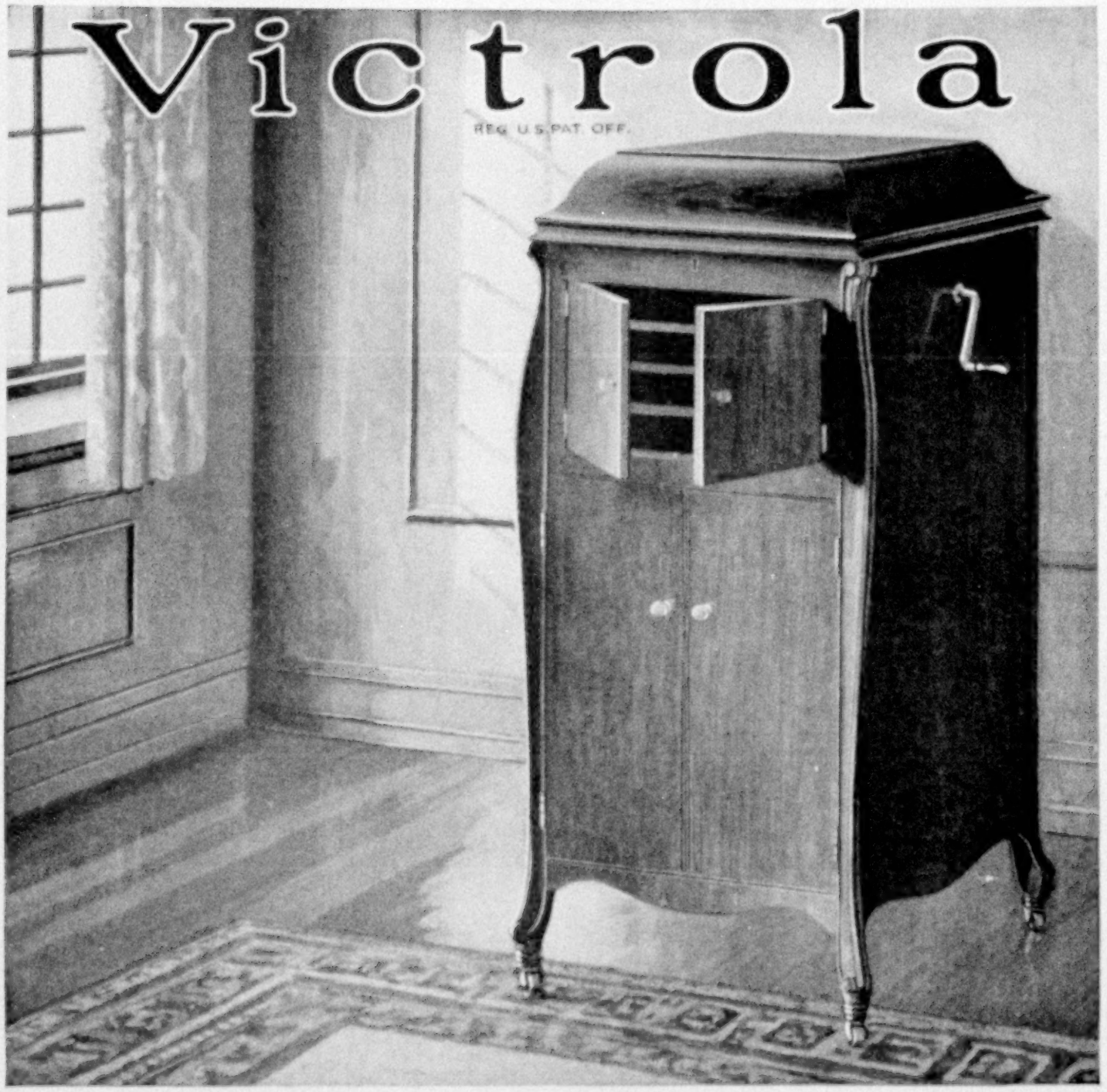


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VOL. XL, NO. 1 WASHINGTON JULY, 1921

THE NATIONAL GEOGRAPHIC MAGAZINE

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# LIFE ON THE GRAND BANKS

## An Account of the Sailor-Fishermen Who Harvest the Shoal Waters of North America's Eastern Coasts

BY FREDERICK WILLIAM WALLACE

*With Illustrations from Photographs by the Author*

IT HAD been blowing a hard December gale for two days and the big liner was rolling and pitching enough to interfere with the comfort and equanimity of the thousand or more passengers aboard her. The few hardy ones who appeared at table bragged of their performance in lounge and smoking-room and opined it was quite a storm; the vast number of the prostrate vowed it was a hurricane.

In the lift of a squall of snow some one, peering through the great windows of the lounge, declared he saw a ship, a small schooner, close alongside. A rush was made for hats and wraps and the small party of those whom seasickness did not claim ventured out on the wind-and-spray-swept promenade deck to view the tiny craft which had the temerity to brave such winter weather so many miles offshore.

The writer happened to be coming home from Havre, and one glance at the schooner to windward served to recognize an old friend. She was a Bank fisherman, from Gloucester or Lunenburg possibly, and she was bound west for home, under heavy-weather canvas.

Passing within a cable's length of our rolling and wallowing leviathan, the little 100-ton schooner was storming along with a broil of white water shearing away from her sharp, round stem, and her reefed sails were as stiff and as white as marble, in the weight of the gale.

She would top a mighty Western Ocean gray-back with the graceful spring of a steeple-chaser, bowsprit pointing to the gray skies and red-painted underbody showing clean to the heel of the foremast; then with an easy plunge, like a porpoise diving, she leaped over the cresting surge and drove down into the trough with but the masts and upper parts of the sails showing above the bluey-green of the combers.

"She's a yacht," remarked some one admiringly.

"Pretty daring yachtsmen to be sailing in that little vessel so far out on the ocean," commented another.

### WHAT THE SEAMAN MEANS BY "SAILOR"

"They're *sailors* aboard that craft," observed a business man to the grizzled chief officer, who had been cajoled from his watch below by the sight.

"Aye," he returned slowly, "they're sailors all right. She's an American fisherman homeward bound." And he stared at her for a minute or two, until she vanished in a flurry of snow.

In this age of steel hulls and steam and motor propulsion, the term "sailor" is often misapplied. All who are em-

Photograph from Phelps Studio

HOME FROM THE GRAND BANKS

The fishing industry along the North Atlantic seaboard is as old as the colonial history of the continent. The fisheries rights on the Grand Banks and along the shores of Nova Scotia and Newfoundland were the subject of diplomatic negotiations between the United States and Great Britain for more than a century and a quarter and were only finally settled by The Hague Tribunal in 1910.

Photograph from Phelps Studio

IN THE HARBOR AT GLOUCESTER

Within a few years after the landing of the Pilgrim Fathers, Gloucester had become the pioneer fishing port of the New World and a "nursery" for stalwart seamen of the American Navy—the men whose descendants were to make history under such leaders as John Paul Jones, Perry, Lawrence, Bainbridge, and Decatur.

Photograph by Herbert B. Turner

FISHING CRAFT AT GLOUCESTER

At the beginning of the Revolutionary War, Gloucester was second only to Marblehead as a fishing port. The industry suffered a blow during that period from which it did not fully revive until the Civil War.

ployed at sea on board a ship are called "sailors" by landsmen, but seamen narrow the embrace of the term down to those who can steer, equip, repair, and handle the canvas of a sailing craft under sea conditions. All others are deck-hands and seamen.

Sailors of the orthodox class even go a step further and designate all the personnel of a steamer as "steamboat-men." They consider the terms "seamen" and "sailor" to be sacred to ships driven by wind and canvas.

It has been my privilege to sail and steam the oceans in many kinds of craft, ranging from the romantic full-rigged clipper ship to the oil-burning greyhounds of twenty-knot speed, and from the graceful, sea-kindly Grand Bank fishing schooner to the sturdy steam-trawler of North Sea type; but in all my voyaging I am inclined to the belief that the only real "sailors" we have today, in this mechanical age, are to be found in the Bank fishermen of North America's Atlantic coasts.

The sailors I refer to are the crews of the beautiful fishing schooners that sail out of the fishing ports of Newfoundland, the Maritime Provinces of Canada, and the New England States of America; and the ports which claim most of them are Lunenburg, in Nova Scotia, and Gloucester and Boston, in Massachusetts.

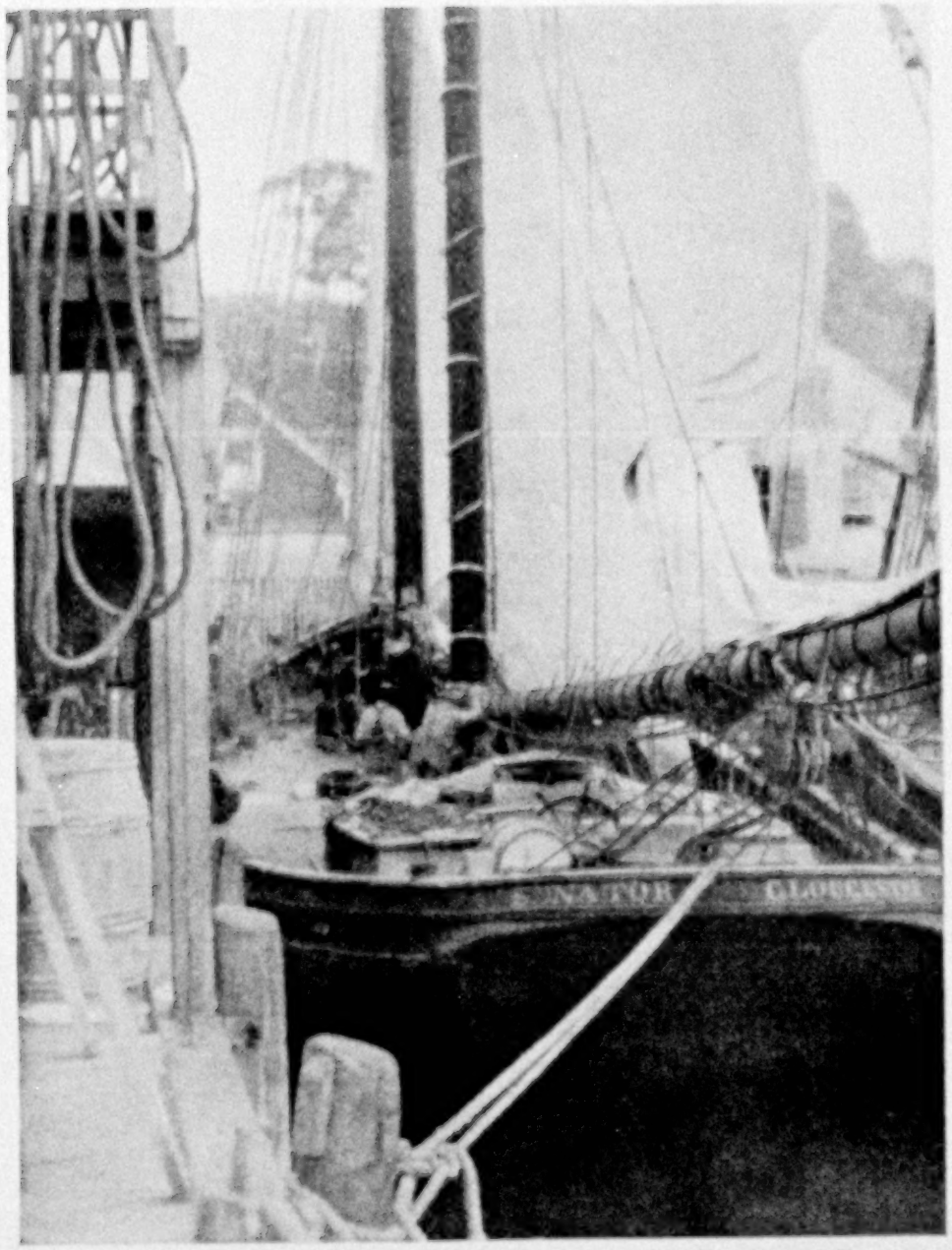
These deep-sea fishermen are a distinctive type peculiar to the North American Atlantic coast. Racially they are from the sturdy pioneer breeds of Highland Scotch, Hanoverian German, West Country English, and West Irish which settled in Newfoundland, eastern Canada, Maine, and Massachusetts when America was young. Landing on the shores of the new land, they made their homes above tide-water and farmed, cut timber, and fished. To reach their markets they had to use the sea, and they built their own vessels to transport their goods.

The succeeding generations of men were, therefore, farmers, fishermen, woodworkers, and sailors.

In the New England States this type succumbed to the development of other industries. Its representatives deserted the seaside farms and went west or into the cities, where life was less arduous.

Nowadays, the men who built and sailed the American sailing marine of 1800 to 1862; who made of Gloucester, Boston, Portland, Provincetown, New Bedford, and Nantucket the great fishing and whaling ports of America having disappeared, their places have been filled by those of their breed who have succeeded in resisting the allurements of the shore industries and the cities.

These latter are the Nova Scotians and Newfoundlanders, and they form the greater part of the crews of the Bank fishermen, with a sprinkling of Scandinavians, Portuguese, and native-born Americans. Thus it is that when a Gloucester fishing schooner is lost, mothers and widows in Newfoundland and Nova Scotia remain to mourn the majority of the vessel's dead.



Photograph by Herbert B. Turner

ALONGSIDE THE GLOUCESTER DOCKS

During the first half of the nineteenth century, the heyday of the American sailing marine, Gloucester, Portland, Boston, Provincetown, New Bedford, and Nantucket were the great fishing and whaling ports of the United States.

THE SEA IS BEFORE HIS EYES FROM INFANCY

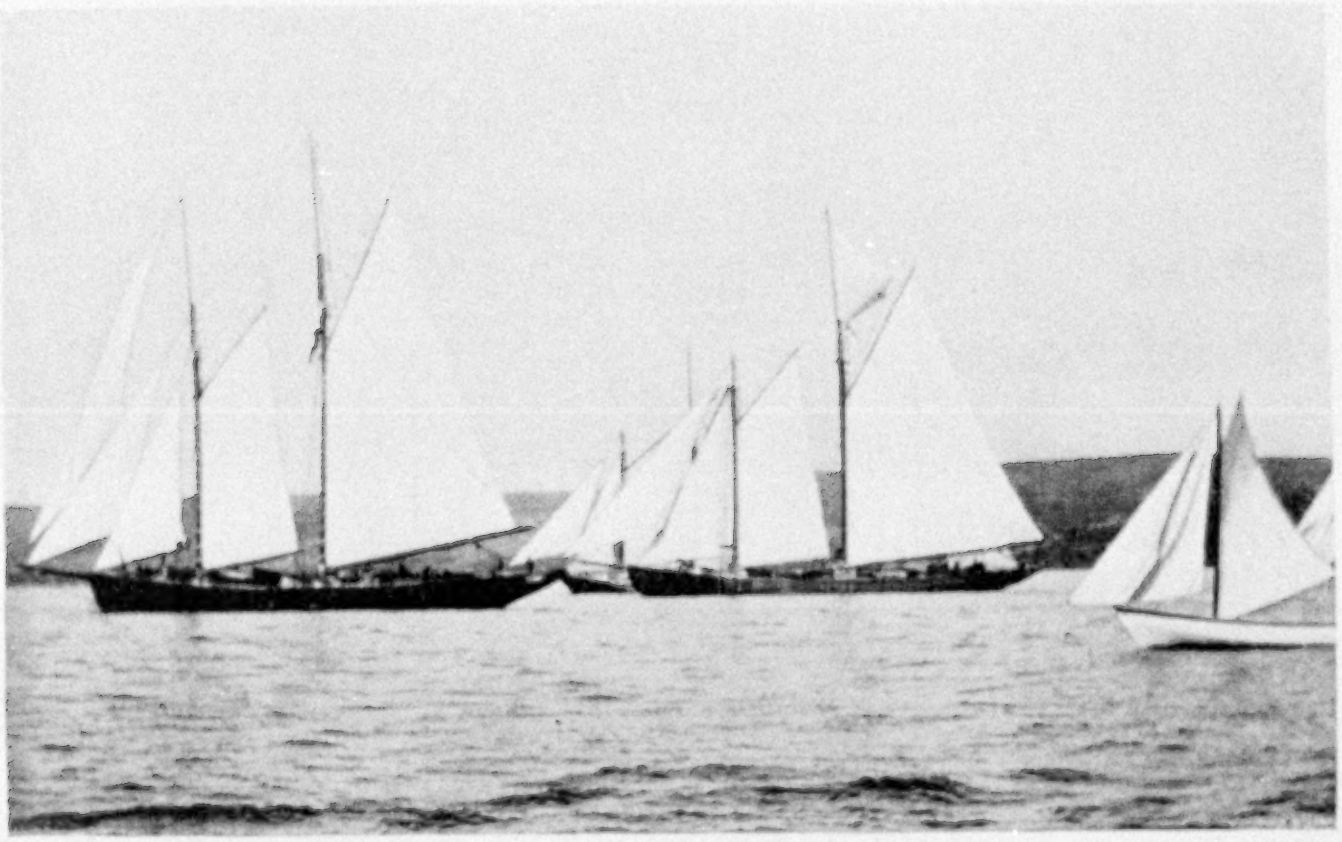
Physically, your American deep-sea fishermen are strong-muscled and able to endure hardship. They are not slum or city products, but are mainly raised in sea-coast villages of the Canadian provinces and Newfoundland.

At an early age they learn to handle an axe, to work on the land, and to rig and bait fishing gear. In the summer months the boys usually go shore-fishing or lobster-trapping. The sea is before their eyes from infancy; the roar of it in their ears and the smell of it in their nostrils.

Clean air, good, wholesome food, and hard work create a sturdy, hard-muscled youth who usually breaks away to sea in a Bank fishing vessel ere town lads are through grammar school. When he knows enough to "hold his end up" in a dory and aboard a fishing schooner, he makes for Boston and Gloucester, attracted by the good money made in Amer-

"ALL HANDS TO THE MAIN-SHEET"

The fishermen practically live in oilskins and rubber boots while at sea.



SAILS SPREAD FOR A RUN TO THE GRAND BANKS

ican vessels and the broader allurements of shore recreations in large ports.

Some few marry and settle down in American fishing ports, but the majority keep in touch with their birthplaces and journey home once or twice a year.

### BOTH FARMER AND FISHERMAN ARE WEATHER GAMBLERS

Ashore, the Bank fisherman is not conspicuous. He talks, acts, and speaks pretty much as any other class of American worker. He is neither ignorant nor uneducated, nor does he interlard his speech with nauticalisms or wear his sea-boots and oil-skins when strolling uptown. The average deep-sea fisherman of today is merely a healthy, level-headed, intelligent class of skilled worker who regards his particular vocation pretty much as the farmer does his, and the two are much akin. Both are gamblers, with livelihoods dependent upon the weather.

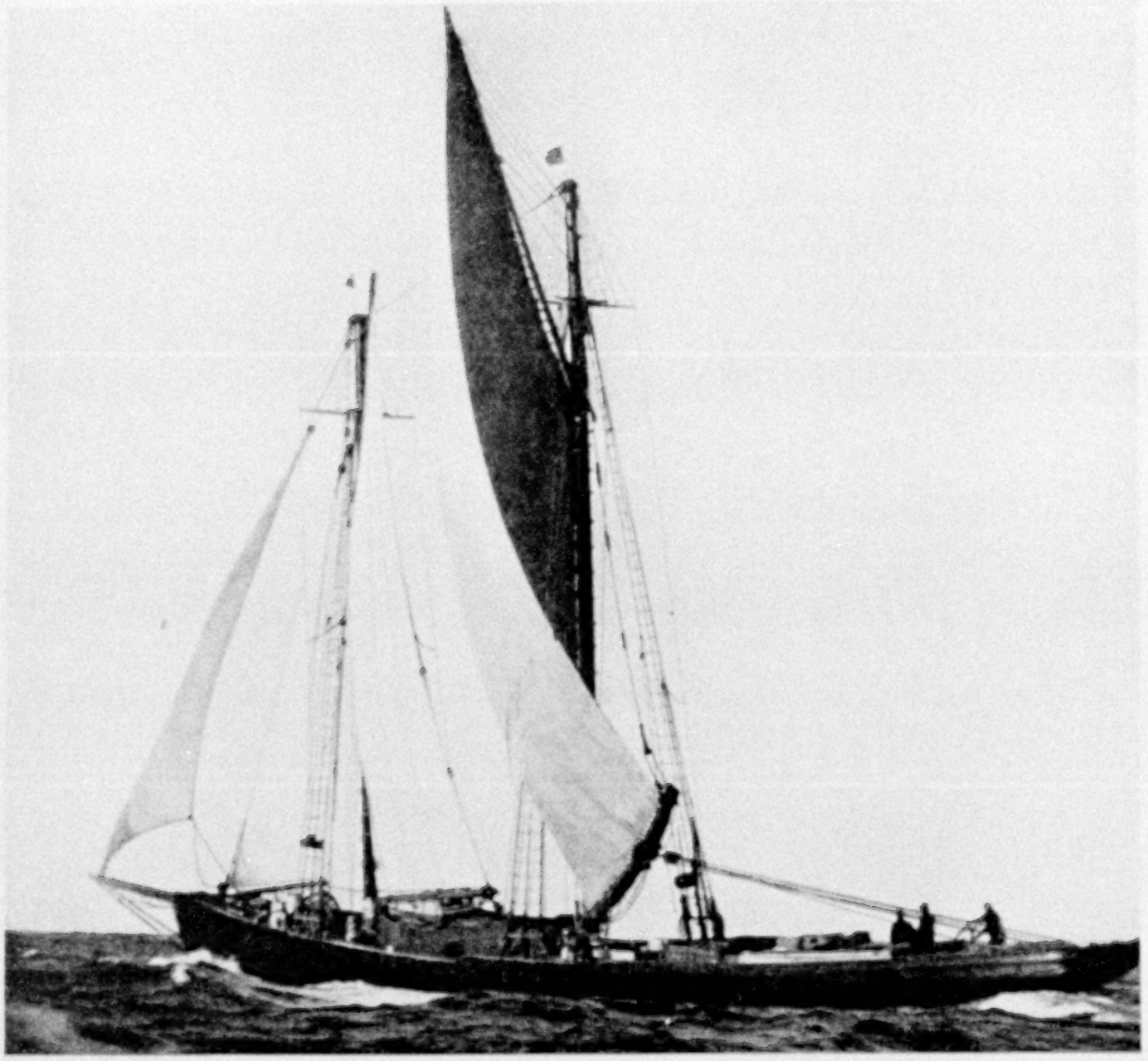
But it is at sea that the Bank fisherman manifests his distinctiveness, and the splendid inherited qualities of the type are seen to advantage—daring, initiative, skill in seamanship, and ability to endure long hours of heavy labor and the rigors of seafaring in small vessels during the varying conditions of weather on the North Atlantic.

It may be said that he is no different from the European fisherman in this respect; but comparisons will show considerable differences. The deep-sea fisherman of Europe has practically outgrown sail, and works on powerful steam-trawlers, where ability to run a winch, haul and heave a trawl-net, use a netting needle, and dress and box fish are practically all that is required of him. On the few sailing smacks operating nowadays in European waters the trawl-net is also used as well as hook and line and drift-net. All the work is done on board the vessel.

### DORY FISHING MAKES THE AMERICAN DISTINCTIVE

In the North American fisheries the fast-sailing and sea-worthy schooner still remains as the prime means of producing fish from the Western Atlantic "banks," and the greater part of the fishing is done from small boats, known as dories, which are carried by the schooner and launched upon the fishing grounds.

It is this dory fishing which makes the American fisherman, and by that term I include Canadian and Newfoundlander, a



SPEEDING FOR MARKET: A BANKER IN WINTER RIG

"The modern Bank fishing-schooners are undoubtedly the handsomest commercial sailing craft afloat. They are built of wood and range from 100 to 150 feet in length, with a tonnage of from 80 to 175 tons."

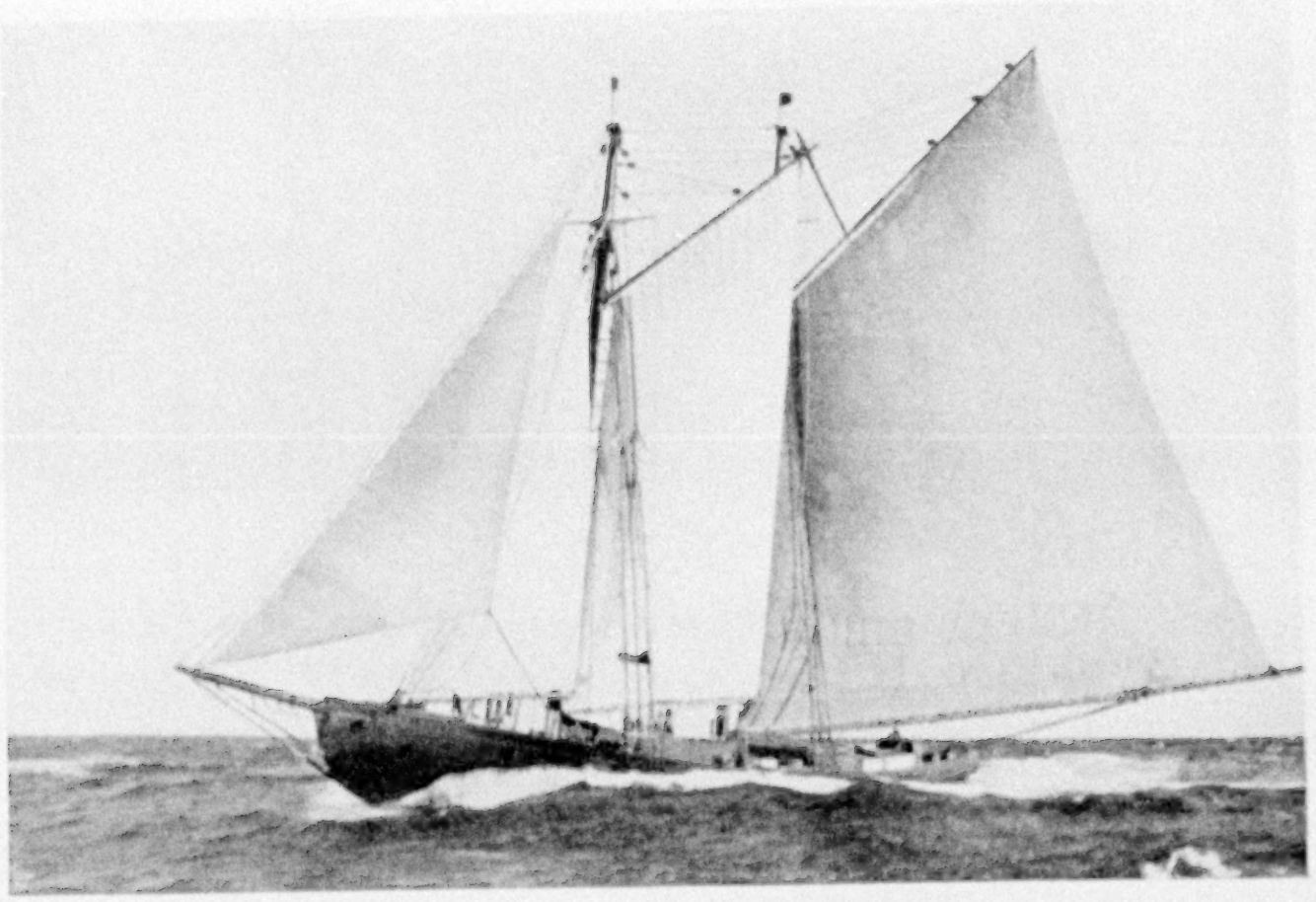
distinct type from his colleagues in other countries, and adds to his vocation a hazard and labor which calls for certain sterling qualities to surmount.

It is a peculiar fact that the North American fisherman, of all white fishermen, has stood out longest against modern innovations in fishing methods and equipment. In Europe, years ago sailing smacks and hook and line were discarded for the steam-trawler and drifter. The trawler of steel construction, propelled by steam or motor, has only been used in the American fisheries of late years, and at present there are about sixty of these craft on this side compared to the thousands in Europe.

But while backward in changing over to steel and steam, our fishermen have evolved a type of sailing schooner which is the last word in weatherly qualities and speed under sail, and the men who man these vessels are the only real sailors left in this age of steam.

### THREE KINDS OF BANK FISHERIES

There are three distinct fisheries in which the schooner fleets of the Western North Atlantic are employed, namely, fresh fishing, salt fishing, and halibut fishing. Mackerel seining also employs a schooner fleet during the season, but this is not a Bank fishery in the accepted sense of the term.



A BANKS FISHING-SCHOONER

In European waters fleets of steam trawlers supply the fish markets, but in the North American fisheries the fast-sailing, seaworthy schooner is still mistress of the Grand Banks.

As most people know, the Banks are vast areas of shoal water lying at various distances off the eastern coasts of the United States and Canada and south and east of Newfoundland. Upon these Banks, in depths ranging from 15 to 200 fathoms, tremendous numbers of certain demersal species of fish are to be found at various seasons. Cod is the commonest variety caught; haddock ranks second, while hake, pollock, cusk, halibut, skate, whiting, catfish, wolf-fish, monkfish, and lumpfish are also marketed.

### FISHING WITH A LINE NEARLY HALF A MILE LONG

In the offshore fisheries upon the Banks, none of these fish are caught by net unless by steam trawling. In the schooner fishery the long-line, misnamed "trawl" by fishermen, and hand-line are used exclusively.

The long-line is, as its name implies, a long line, ranging from 2,100 to 2,400 feet in length, and is made of thin, but incredibly strong, tarred cotton.

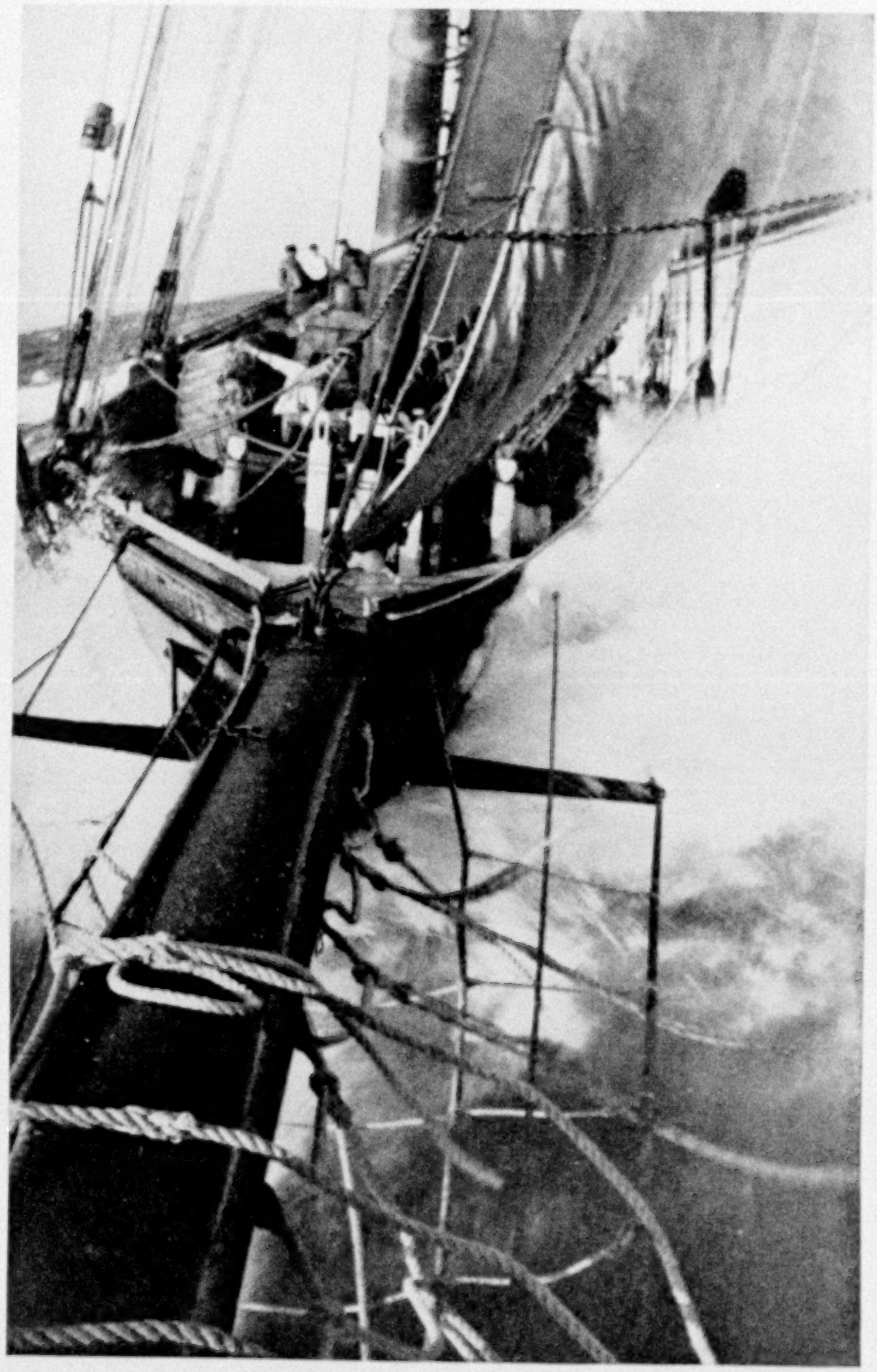
Into this "back line," or "ground line," are spliced thinner lines, called "snoods" or "gangens," at thirty- to forty-inch intervals. These snoods are usually from twenty to thirty inches long, and a strong steel hook is bent to each. Thus, on each long-line there are from 600 to 800 snoods and hooks.

Each long-line is coiled down in a wooden tub—often made by the fishermen themselves by cutting down a flour barrel—and every hook has to be baited before the "gear" is set.

In halibut fishing a much heavier line and hook are used, and as the snoods are spliced or bent into the ground-line at lengthier intervals, there is consequently a lesser number of hooks affixed to a coil of halibut gear.

### THE ACTUAL FISHING IS FROM THE DORIES

Halibut line is not coiled down in tubs, but secured, when not in use, by a small square of canvas from which four pieces of short rope depend. The coil is placed upon the canvas and the ropes are used to lash the gear up in a compact bundle, the whole being called by fishermen "a



SIXTEEN KNOTS IN A DECEMBER BLOW

The photograph was taken from the bowsprit of an American fishing-schooner a few moments before it became imperative to reduce sail.

*skate* of halibut gear" in contradistinction to "a *tub* of cod or haddock trawl."

On every Bank fishing-schooner, except hand-liners, on which the fishing is done from the deck, a number of flat-bottomed, high-sided boats, called "dories," are carried. These dories are from 18 to 22 feet over all and their thwarts are removable, so as to permit their being "nested" one within the other upon the schooner's decks when not in use. From six to twelve of these dories are carried by fishing schooners, and it is from the dory that the actual fishing is done.

The modern Bank fishing-schooners are undoubtedly the handsomest commercial sailing craft afloat. They are built of wood and range from 100 to 150 feet in length, with a tonnage of from 80 to 175 tons. Their lines are fine and designed for speed, but weatherliness has been so well combined in the model that neither quality has been sacrificed. True, they are terrible craft for jumping about in a breeze and sea, but they seldom ship any heavy water on deck during a blow, unless "knocked down" or "tripped up" by squall or irregular wave.

Well-ballasted and drawing a lot of water aft, the Bank schooner stands up to a great spread of sail, the main-boom in some vessels being 75 feet long. The big mainsail is the largest piece of canvas on a fisherman and it is carried until the whole strength and skill of twenty to twenty-five men is required to make it fast in a strong breeze.

### A CLOUD OF CANVAS IN SUMMER

The orthodox Bank schooner is two-masted—there have been three-masters—and the sails carried are mainsail, foresail, forestaysail, or "jumbo," and jib. These are known as the four "lowers."

In summer, when the topmasts are up, light sails are set, consisting of fore- and main gaff-topsails, a rectangular main-topmast-staysail, and a balloon-jib or jib-topsail. The two latter are often of great size, and when a Banker has her light sails set she is a veritable cloud of canvas.

In winter fishing, the light sails are left ashore and the topmasts are also discarded. In heavy weather, which will not permit a reefed mainsail to be set, a small triangular piece of canvas, known as the "riding sail," or storm trysail, is hoisted on the mainmast. This sail is also set to steady the vessel while lying to an anchor on the Banks or when making short "shifts" from berth to berth on the fishing grounds. When under riding-sail, foresail, and jumbo, a schooner is said to be "under Bank sail."

### EVERY BANK SCHOONER IS A SEAFARING DEMOCRACY

Every Bank fishing schooner is a sort of seafaring democracy. The crew works the ship on a coöperative basis, with the skipper as sailing and fishing "boss." In Canadian and American craft in which the writer sailed, the gang were shipped on the share system, their remuneration consisting of an equal share of the proceeds of the catch after the bills for victualing, ice, salt, bait, cook's wages, and other incidentals had been paid.

The schooner took a quarter or a fifth of the gross stock, and this repaid her owner for the hire of the vessel. Out of this share came the cost of insurance and upkeep, but in good seasons, prior to 1914, many schooners paid their cost of construction within twelve months. In those days, however, a Banker could be built for $12,000; nowadays they cost nearly $50,000.

The share system has had many variants. Formerly, in some vessels, it was "even shares," where all hands drew the same amount. In other craft it was "by the count," where each dory kept count of the number of fish caught and the dory catching the greatest number drew the highest share. The lucky dory was known as the "high line" or "high dory"; the lowest count was "low dory," and in some ships if a pair of fishermen came "low dory" too often they were "fired."

Both of these systems had their drawbacks, and of late years so many new methods of dividing the proceeds of the catch have been instituted in the different vessel fisheries that it would be confusing, and possibly erroneous, to quote any one as being the standard.

In some vessels a wage is now guaranteed and augmented by a share; in others, the owner provides food and gear and the fisherman provides nothing. But the share system, in some form or another,

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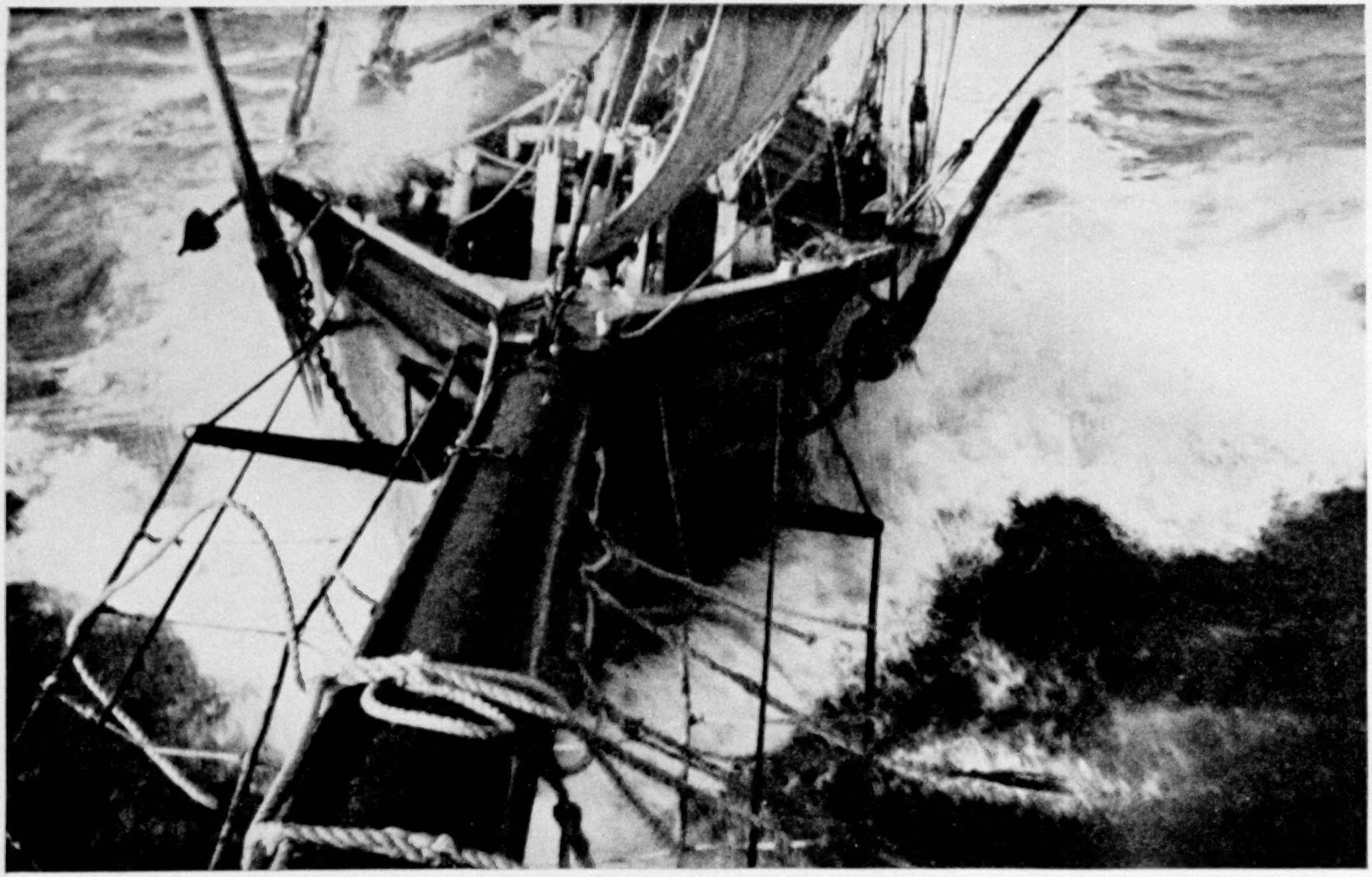

FROM THE END OF THE BOWSPRIT: LOGGING SIXTEEN KNOTS IN A DECEMBER BLOW

A second view of the same schooner shown in the illustration on page 10. In the Grand Banks fleet it is a matter of pride with the skippers not to reduce the spread of canvas until the safety of the schooner absolutely demands it.

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"FLYING SETS" ON THE BANK

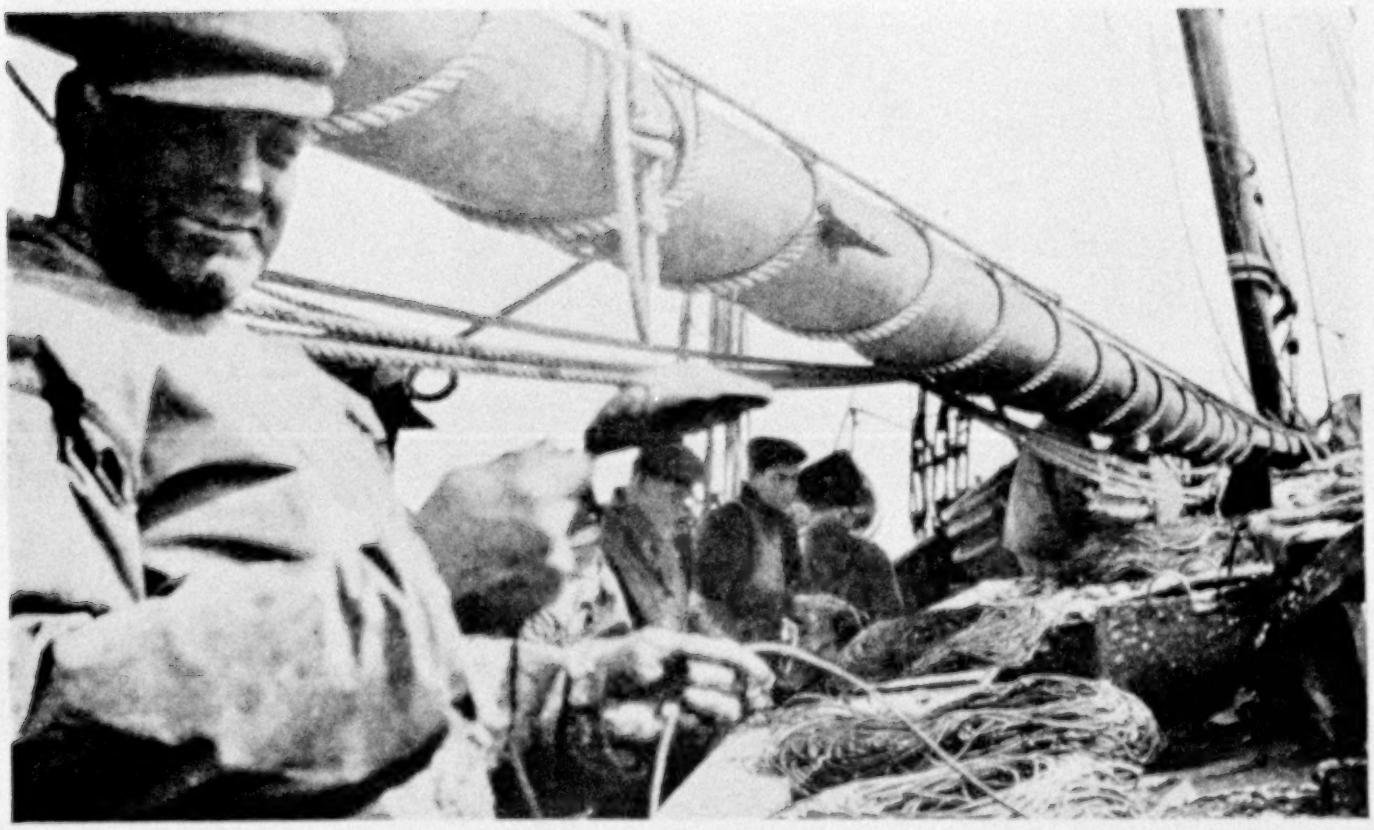
The dories are being towed by the schooner. The black disks are "high-flyers," or "black-balls," which are affixed to the buoys attached to the fishing lines, as markers (see text, page 20).

DORIES ON THE BANK

The next dory is barely discernible to the right, in the distance. Sometimes they are strung out behind the parent schooner for five miles.

A DORY COMING ALONGSIDE THE SCHOONER

The tubs in the stern contain the long-lines (see text, page 9).



BAITING HALIBUT LINES WITH FRESH HERRING

There are three kinds of fisheries on the Banks—salt fishing, fresh fishing, and halibut fishing (see text, page 8).

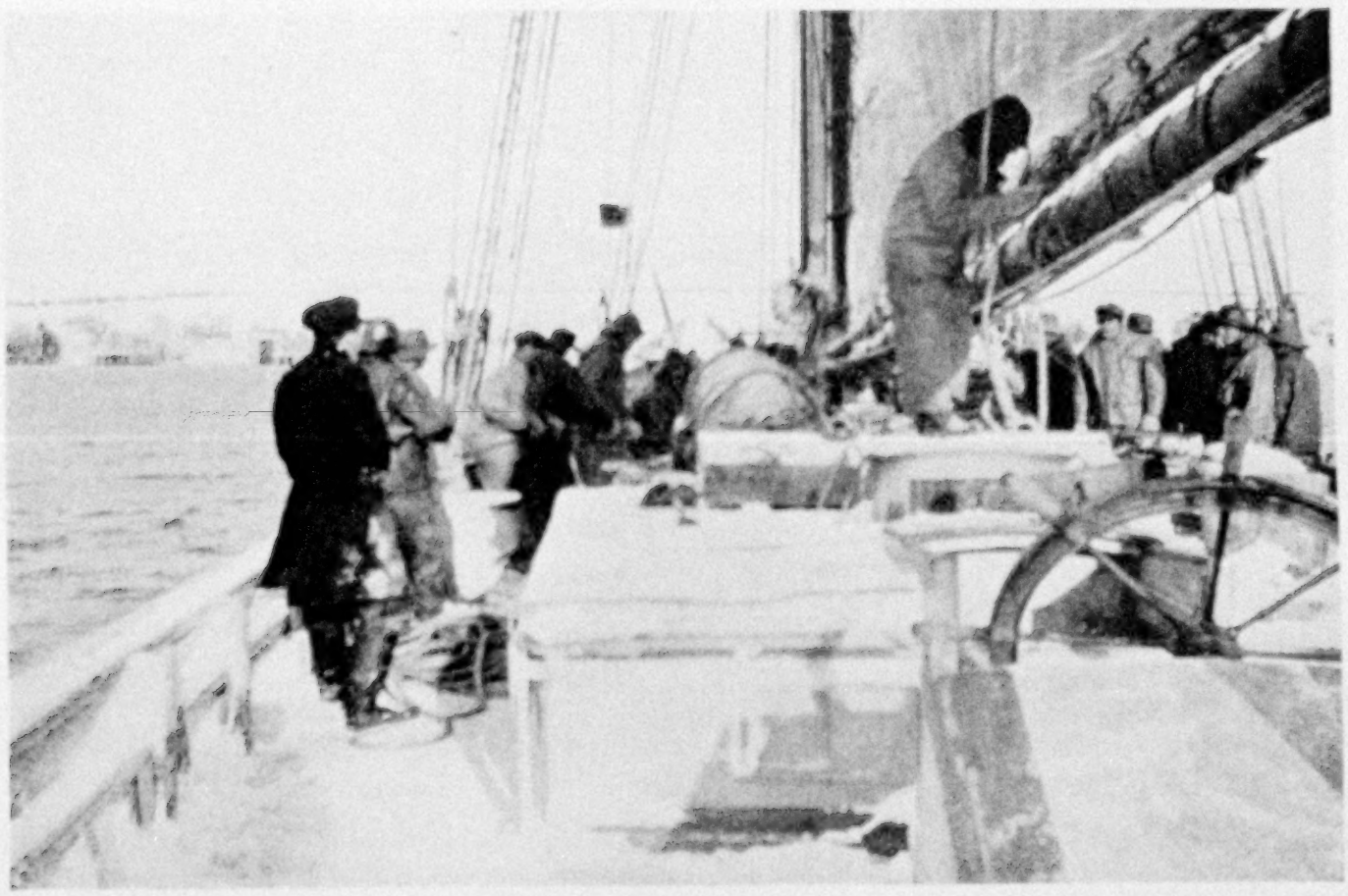
CLUBBING A HALIBUT

This fighting fish must be clubbed before it can be taken into the dory.

TORN TO RIBBONS

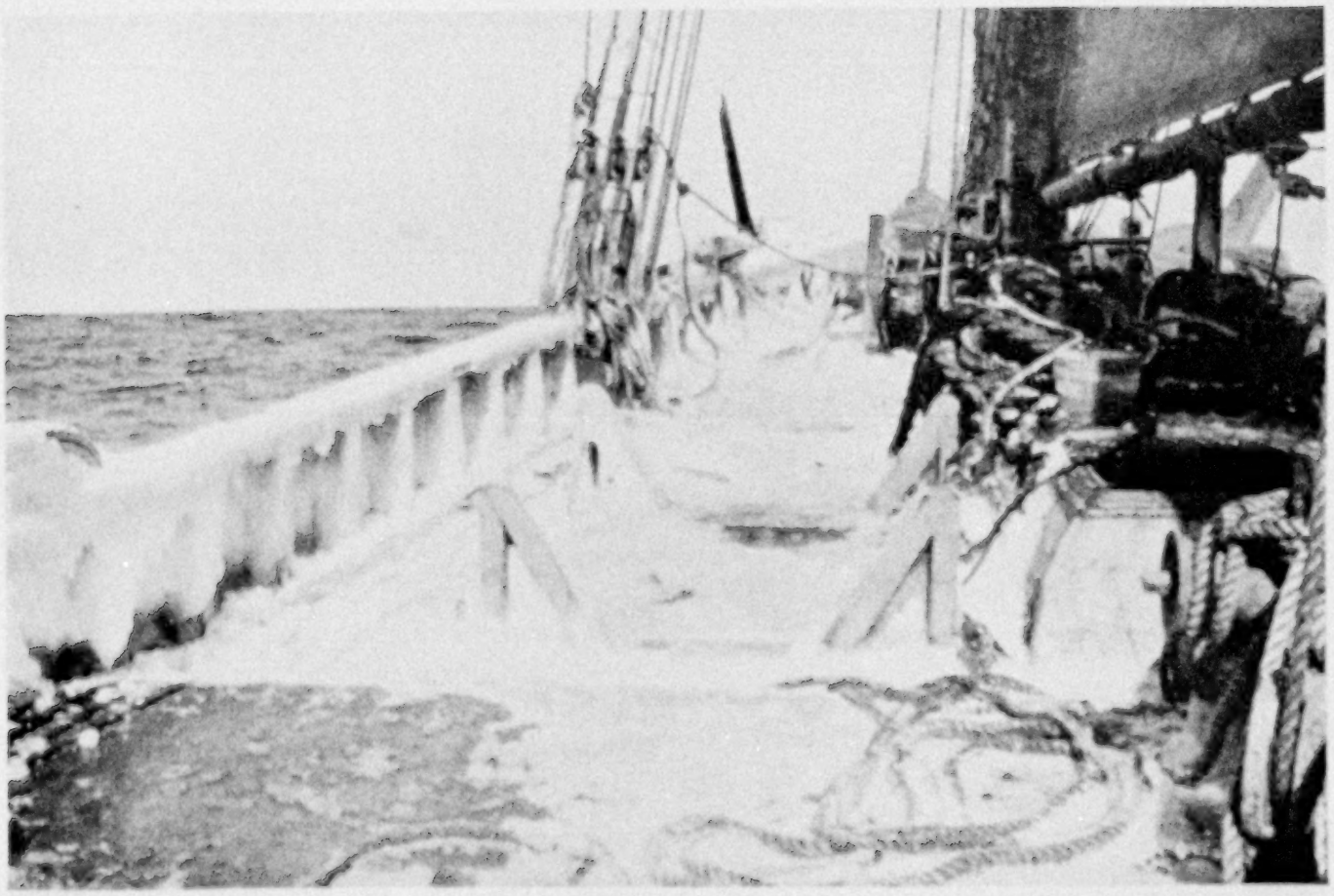
A forestaysail, or "jumbo," which was carried away in a squall.

REPAIRING A TORN SAIL

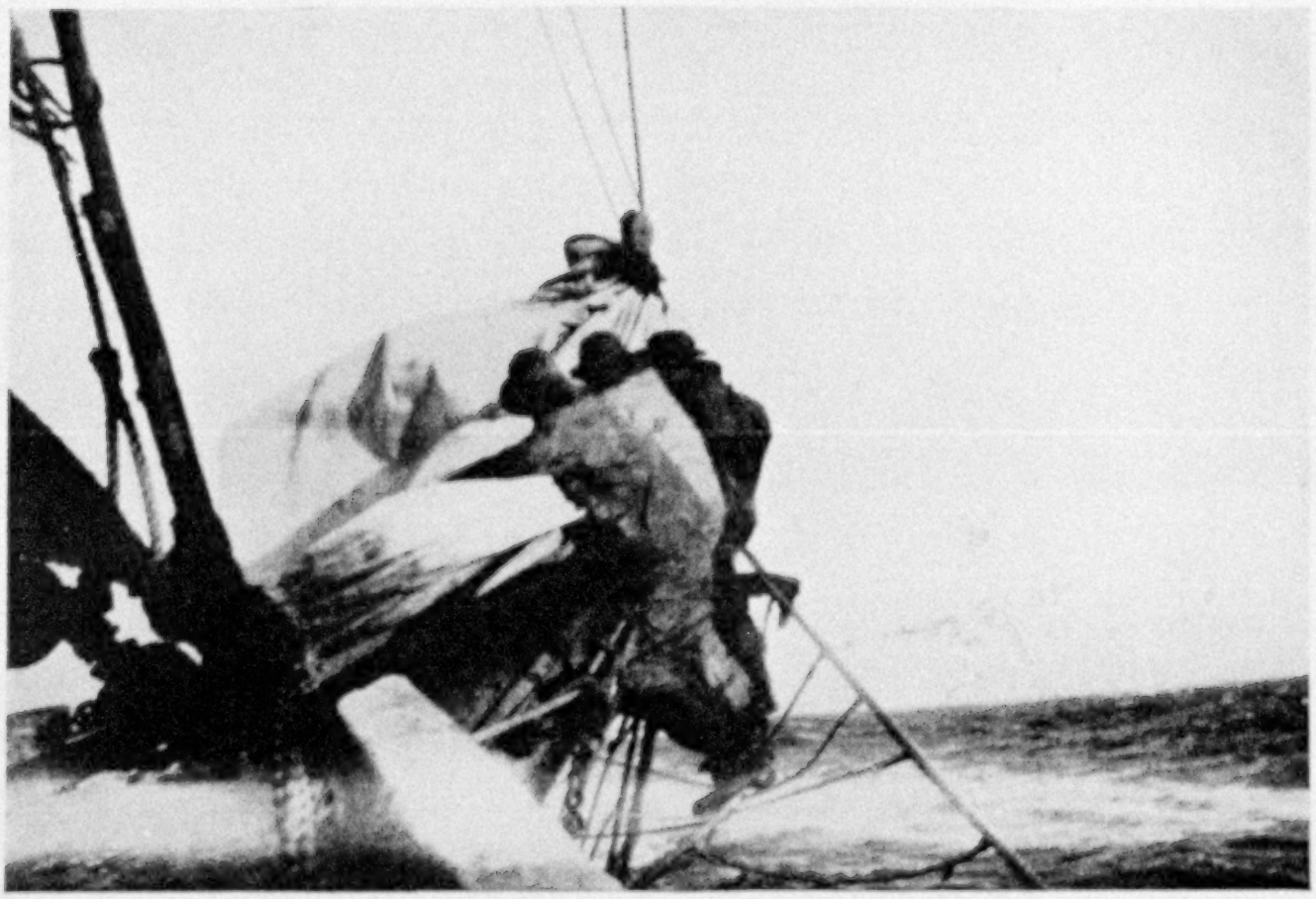


GETTING UNDER WAY IN WINTER

A schooner sometimes becomes so coated with ice that it is in danger of foundering.



IN WINTER, WHEN THE DORIES ARE OUT ON THE BANKS



MUZZLING A JIB IN A SQUALL

In winter weather, fishing can be carried on only in the lulls between squalls. At this season schooners are stripped for heavy weather, topmasts and light sails being left ashore.

still remains, as no orthodox fisherman would work in any other way. They are all born gamblers and always look forward to the "big trip."

I have been on voyages where the men drew $70 each for a week's work, and on others where they made but $45 in two months. The Goddess of Luck has something to do with the fisherman's remuneration, but the men who fish steadily throughout the year with hard-working skippers usually make a good income, though it is never commensurate with the risks they take.

The crew, or "gang," of a Banker runs from sixteen to twenty-five men. A schooner "running ten dories" would have a crew sufficient to man ten dories with two fishermen in each. In addition to these twenty men, there are the skipper, the cook, a deck-hand, and, if the vessel is an auxiliary, an engineer. In some vessels neither deck-hand nor engineer is carried.

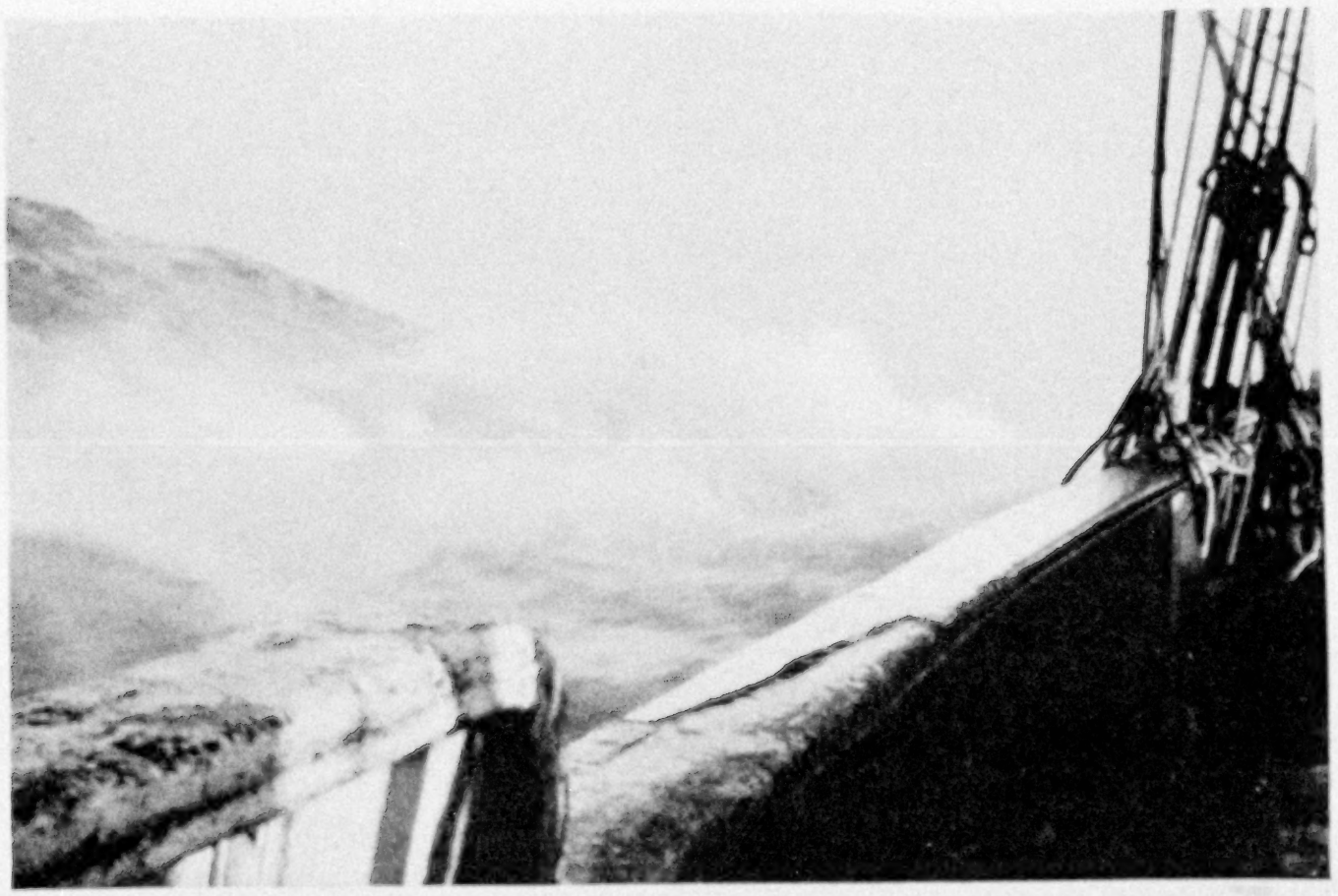
### NO FAVORITES ON A BANK SCHOONER

All navigating is done by the skipper. The men are primarily fishermen, but they are under the skipper's orders and must help to sail the vessel, to steer and keep a lookout, and to set and furl sail.

On passages to and from the Banks, the fishermen take regular turns in standing a watch at wheel and lookout. With a gang of twenty men and two men to a watch, this period is not a very long one, as a rule, but in bitter winter weather, with a hard breeze blowing, an hour at wheel and lookout is long enough. I have known times when ten minutes at the wheel required relief to thaw out fingers and toes numbed with zero frost.

When sail has to be set or made fast, all hands are called. If the men are asleep and it is only a small job that requires four or five hands, the whole crowd is turned out to do it. By doing this, no favorites are made and no one can complain that he is being imposed upon. I have seen twenty men roused from slumber to take in a jib—a job three fellows could have done—and the skipper saw to it that no man loafed below.

During the run-off to the "grounds" the fishermen are busy overhauling their



A BIG COMBER

The Bank fishing-schooner will make "good weather" of a hard gale and mountainous sea.

fishing gear. Each man has his dory-mate and his particular dory and they divide the work between them. It is incumbent upon them to have their lines in good shape and their dory properly equipped when the skipper sings out, "Bait up!", the schooner having reached the Bank to be fished.

Six to eight tubs, or skates, of gear have to be kept in order and baited by the two dory-mates—a task which calls for much skill and deftness of fingers, when some 2,000 hooks have to be baited with pieces of herring, squid, or capelin every time a "set" is made.

### THE SOUNDING LEAD IS THE SKIPPER'S OTHER EYE

The passage to the Banks may be a run of from fifty to five hundred miles and it is usually made in the quickest possible time.

When the vessel has run her distance, the "spot" the skipper has been making for is found by the lead. The sounding lead is a fishing skipper's other eye and he is usually an adept in determining his position by means of it.

While there are many fishing captains who can navigate by solar and stellar observations, yet the majority find their way about by dead-reckoning, using compass, chart, log, and lead, and their accuracy is often startling.

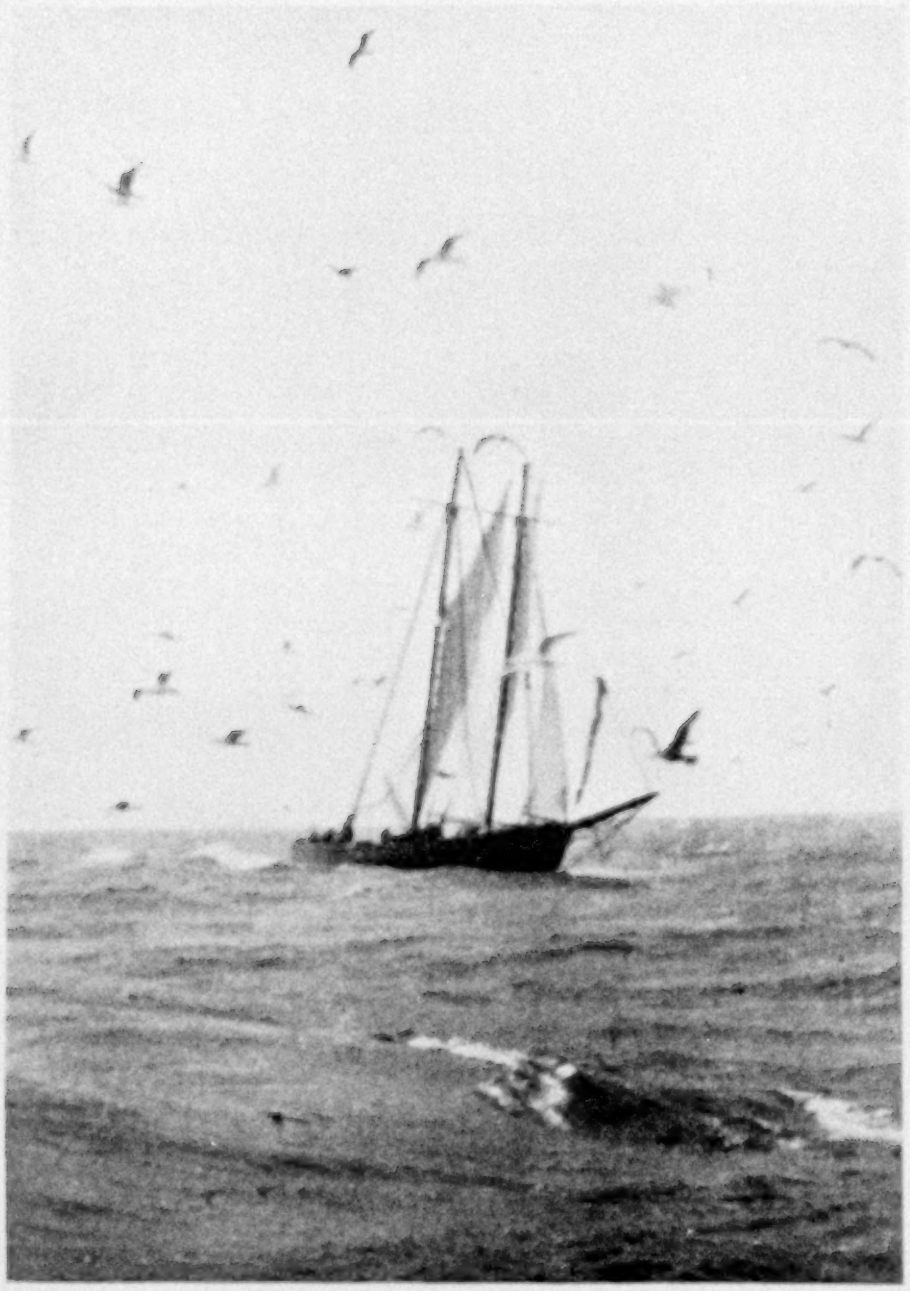
The sample of the bottom brought up by the soap or tallow on the lead and the depth of water give most skippers an exact position after two casts.

If the gear has been baited and the weather is favorable, the skipper sings out, "Dories over!" The dory-mates who hold the two top dories on the port and starboard "nests" prepare their boats for going overside by shipping the thwarts and jamming the bottom-plugs in.

Oars, pen-boards, bailer, water-jar, bait-knife, gurdy-winch, bucket, gaff, sail and mast, and all other boat and fishing impedimenta are placed in each little craft, and it is swung up out of the nest and overside by means of tackles depending from the fore and main shrouds.

### SETTING THE LINES

Two fishermen secure their tubs of baited lines and jump into the dory, which



THE WINTER GULLS

In winter, the gulls surround the fishing vessels by hundreds. During the summer they are not so common.

is allowed to drift astern. The painter is made fast to a pin in the schooner's taffrail and the dory is towed along by the schooner. As the other dories are launched, they are dropped astern, made fast to each other, and towed by the schooner (see illustration, page 13).

When all the dories are overside, the skipper, at the wheel of the schooner, determines the direction in which he wants to set his lines, and the dories are let go, one at a time, as the vessel sails along. A schooner "running" ten dories will have them distributed at equal distances along a four- or five-mile line and Number One dory is often out of sight from the position of Number Ten.

When the last dory has been dropped, the skipper will either "jog" down the line again or remain hove-to in the vicinity of the weather dory while the men are fishing.

In the dories, when the schooner has let them go, one fisherman ships the oars and pulls the boat in the direction given him by the skipper, while the other prepares the gear for "setting."

The end line of the first "tub" of baited long-line is made fast to a light iron anchor to which a stout line and buoy-keg is attached. This is thrown over into the water, and the fisherman, standing up in the stern of the dory with the tub of long-line before him, proceeds to heave the baited gear into the sea by means of a short stick which he holds in his right hand.

With this "heaving stick" he dexterously whirls the coils of line and hooks out of the tub and the long-line goes to the sea-bottom.

Three or four tubs, the lines joined together, may be set in this fashion, and another anchor and buoy is made fast to the last end. The long-line now lies on the bottom of the sea and is prevented from drifting or snarling up in bottom or tidal currents by the anchors at each end.

The fishermen in the dory hang on to the last anchor until it is time to haul the gear, or they may leave it altogether and pull back aboard the schooner again, leaving the location of their lines to be marked by a flag or "black-ball" thrust into the buoy-keg attached to the anchors at each end.

READY FOR THE HAUL

The lines may be "set" for periods varying from thirty minutes to half a

day. In the latter case the fishermen will be towed back to their gear again by the schooner and cast adrift when the buoys marking their respective lines appear in sight.

The picking up of these tiny buoys and flags, scattered over five or six miles of ocean, is quite a knack, and the fishing skippers seem to possess an uncanny sense of location in finding them. The writer has known schooners being forced to leave their gear in the water and run to port for shelter in gales of wind, and to return two or three days afterward and pick it up again without much trouble.

When ready to haul the long-line, the fishermen insert a lignum-vitæ roller in the gunwale of the dory and pull the anchor and buoy up.

The end of the line fast to the anchor is detached and the fisherman, standing in the bow of the dory, commences to haul the long-line out of the water. His dory-mate stands immediately behind, and as the line comes in it is his job to coil it back into the tub again after knocking off the untouched bait.

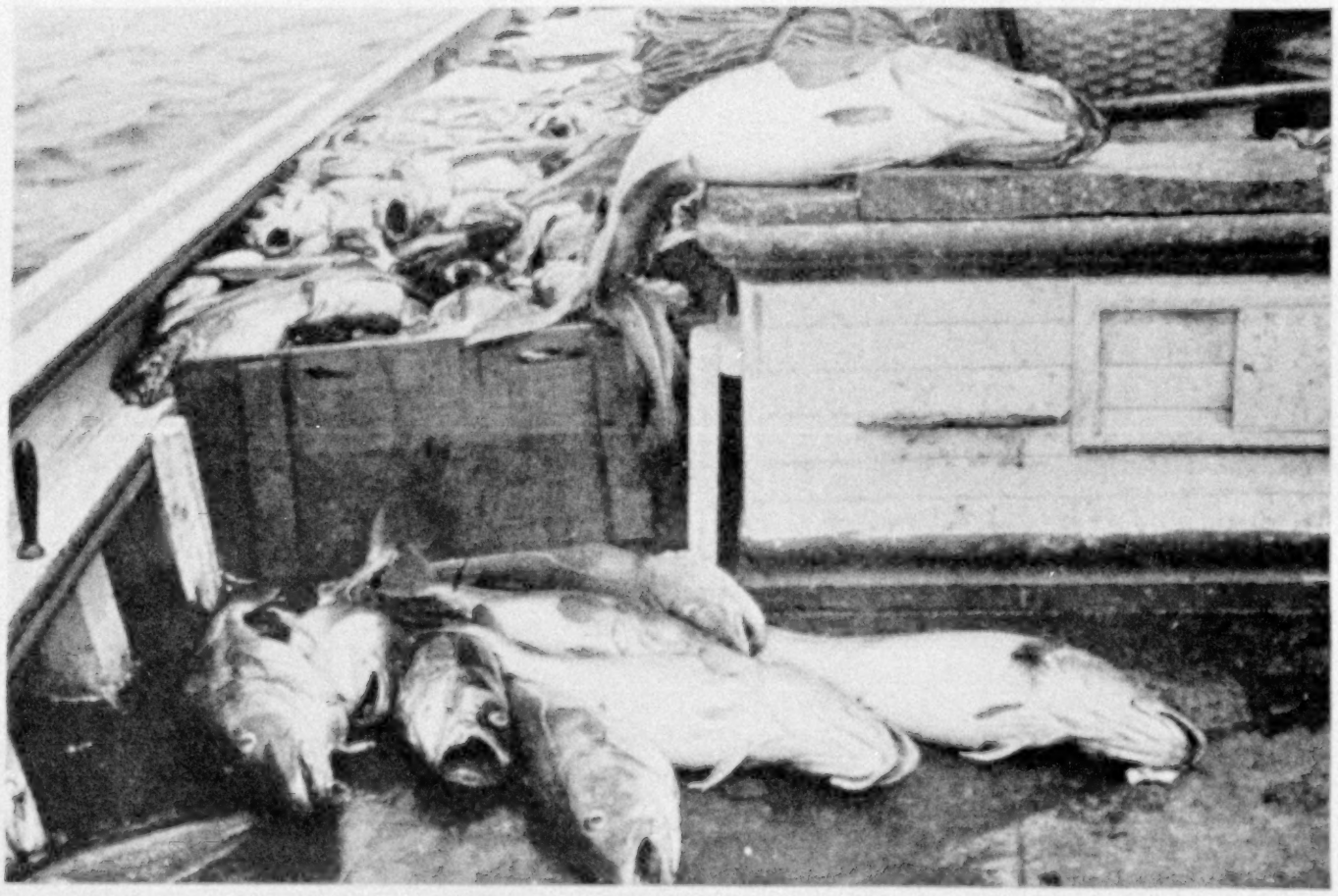
A NEST OF DORIES AND BULWARKS COVERED WITH ICE

The fisherman hauling the line over the roller disengages the caught fish by a dexterous twist of the arm. This backhanded jerk whips the hook out of the jaws of the fish and it flops into the bottom of the dory. Fish which cannot be cleared in this manner are passed on to the man at the tub, who twists the hook out by taking a few turns of the snood around the "gob stick," which he thrusts into the mouth of the fish.

### A VOLLEY OF "SLATS" MEANS POOR HAULS

Unmarketable species—sculpins, skate, dogfish, etc.—are knocked off into the sea by a vicious slat against the dory gunwale. On a quiet summer's day there is no more disheartening sound to a fishing skipper than to hear a continuous volley of "slats" coming from the line of dories. It means that the dogfish are swarming on the grounds, and that they have taken the hooks intended for better fish.

When the lines have been hauled and the last anchor is up, the fishermen row or sail down to the schooner, which is generally hovering around like a hen keeping guard over her chickens. The dory rounds up alongside the vessel, the painter is caught by some one aboard her, and, after handing up their tubs of longlines, the two fishermen pitch out their fish upon the schooner's decks.



A PEN OF CODFISH ON A SCHOONER'S DECK

At the end of the day in the dories the work of "dressing down" the catch begins (see text on this page).

Certain sections of the deck have been penned off for the reception of the catch, which prevents the fish from sliding to leeward when the schooner rolls.

THE JOB OF DRESSING DOWN THE CATCH

At the end of the day, when all hands are aboard, the work of "dressing down" the catch commences. The fish are split and gutted, and some species are beheaded, by the fishermen, standing at tables rigged up on deck. The dressed fish are then washed in tubs of salt water and consigned to the hold, where they are packed away on chopped ice.

If the vessel is salt-fishing, the fish are piled upon each other in the hold-pens and liberally covered with coarse salt.

After the catch has been cleaned and stowed away, the men bait up their gear for the morrow's "set." If the fish are biting freely and the catch is heavy, the fisherman's day is a long one. Dories will often be swung overside before sunrise and the men will finish by midnight.

There is very little sleep to be got on the Banks when the weather is fine and the vessel is "on fish," and the writer remembers one occasion in winter fishing on a market fisherman where the gang were kept hard at it from Sunday night to Thursday morning with but an hour's sleep each night. On Thursday a gale of wind came along and it was hailed with pleasure, as an opportunity to "lay off" and catch up on slumber.

FOG, THE FISHERMAN'S WORST ENEMY

The foregoing description is that of the life on a market or fresh-fishing schooner running her catches to port for consumption in a fresh or smoked state.

The "marketmen" seldom remain at sea longer than ten days, but life aboard these craft demands the greatest skill and hardihood on the part of skipper and crew. They waste no time in getting to the fishing Banks, and usually go tearing out under a press of sail. Dories are hoisted over before dawn, and the men often fish all night, with torches aflare on the dory gunwales. They will go overside in pretty rough weather and will remain out until the last minute, in the face of fogs and squalls.

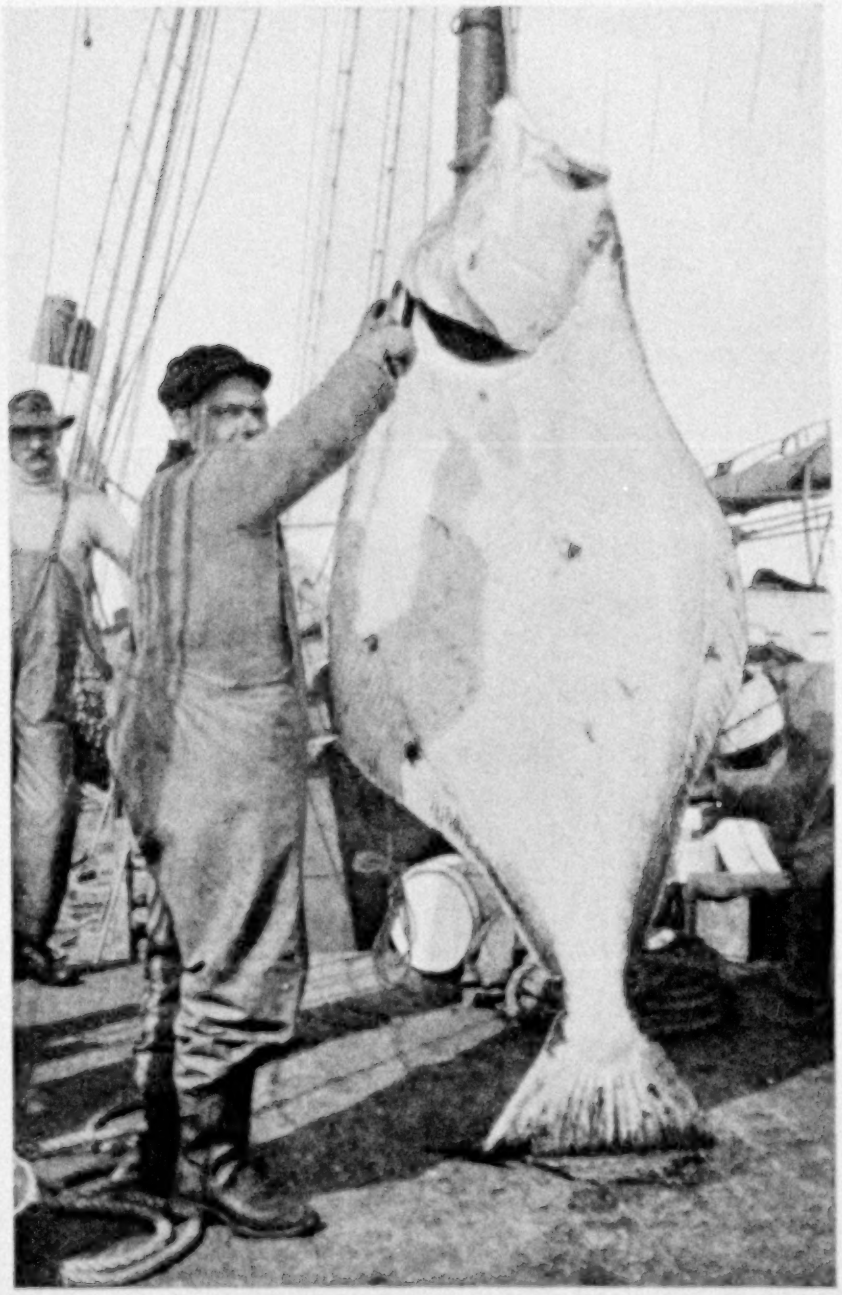
In summer, fog is the fisherman's

worst enemy. Dories may be strung out when it is fine and clear, and before they can be picked up again they are blanketed from view in a wet, sight-defying mist.

The skippers are wonderfully clever at locating the hidden dories, but it often happens that some cannot be found, and their names are listed with the yearly death toll of the Banks.

But there are not many casualties, considering the frequency of the fogs, and I can remember one occasion when 56 dories were reported astray from their vessels and all were either picked up by other schooners or else rowed in from the Banks to the land. Some of the distances stray fishermen have rowed in dories seem incredible, but a pull of 150 to 175 miles in rough weather and without food is not an unusual accomplishment.

A few years ago, during April, two fishermen got astray from their vessel on Quero Bank and were picked up *fourteen days* afterward 30 miles northwest of St. Pierre. They had but a little cake and some water to sustain them during that period and only managed to keep from freezing to death by constant rowing. One man's feet and hands were black from frostbite when picked up.



A BIG FELLOW: A GULF OF ST. LAWRENCE HALIBUT WEIGHING ABOUT 300 POUNDS

### THE SIREN STRIKES TERROR

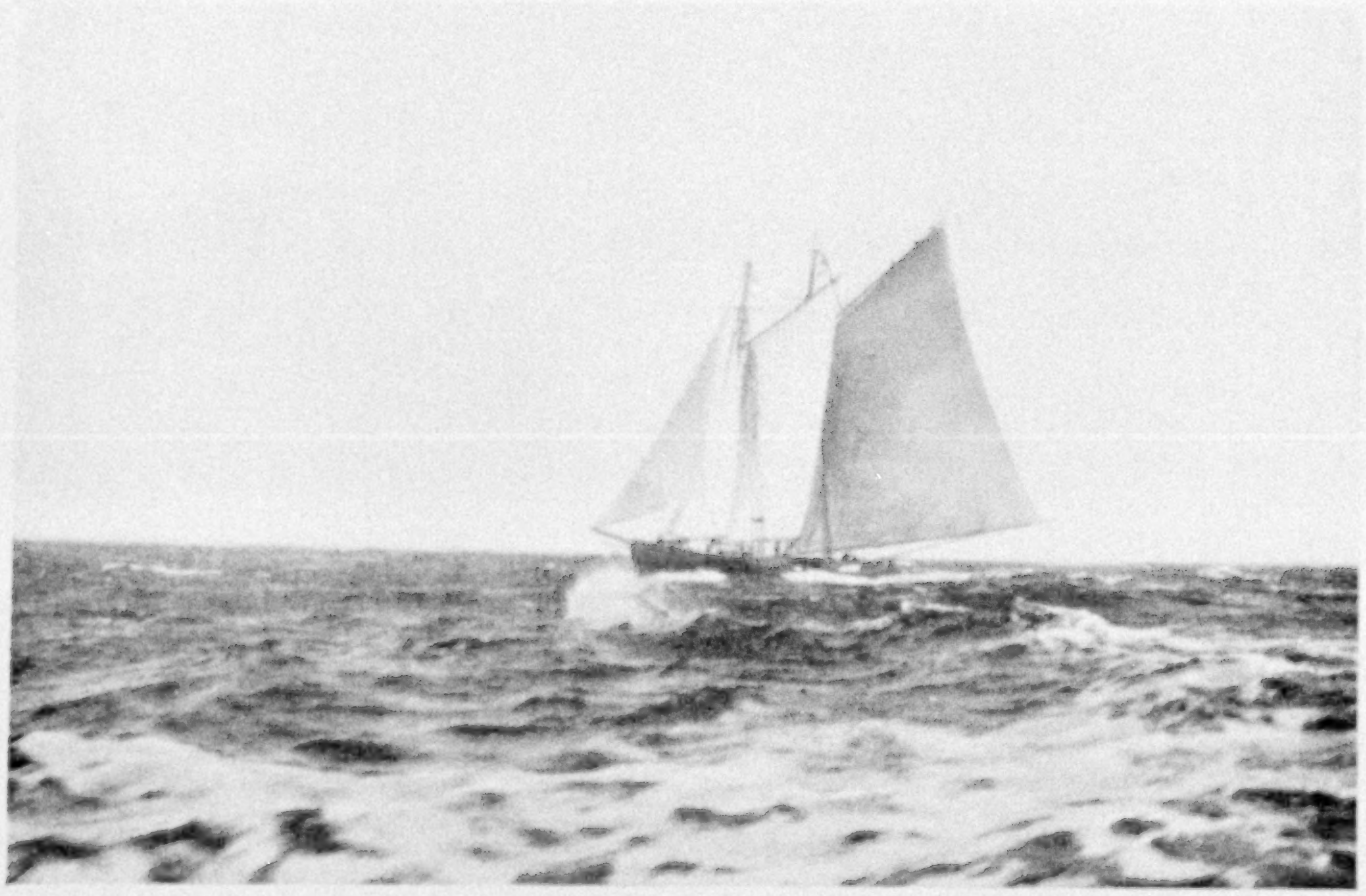
Fog inspires fear in fishermen by reason of the danger of being run down by steamers. Many schooners have been sent to the bottom thus, and the roar of a steamer's siren close aboard in foggy weather will have a crowd of fishermen out of their bunks quicker than anything else I know of.

It is a most disturbing sensation to be lying becalmed and helpless in a clammy mist and to hear a steamer blowing in the vicinity. One never can tell from which direction she is coming, and the fishermen blow horns, light torches, fire guns, and ring bells when the dreaded blast is heard.

During the winter months the Banksmen fishing for market endure some strenuous times. Chilling cold, strong winds, rough seas, and ice and snow make of dory-fishing at this season a somewhat risky and desperately arduous occupation.

### THE FINEST BOATMEN IN THE WORLD

The schooner is stripped for heavy weather, topmasts and light sails are left ashore, and fishing is carried on during the lulls in the squalls. Time is valuable



HOMEWARD BOUND: A BANKER IN WINTER RIG

on market Bankers and only a steady gale will keep the fishermen aboard the schooner.

If the weather is intermittently squally, the dories go overside and make "one-tub sets," coming aboard the schooner when it is snowing and blowing too hard and setting out again when the flurry eases off.

It is in weather like this that one is compelled to give the Bank fishermen their due. To see them swing their dories overside on a black winter's morning and pull out over a tumbling sea and set their lines with a torch aflare on the dory gunwale is a most impressive sight. One can see them on a windy day toiling and tossing in their frail craft on a cresting waste of gray waters and blotted from sight every now and again by squalls of snow.

To set and haul their gear, to pull a heavy dory with a load of cod and haddock in a broil of wind-whipped combers, demands a skill and hardihood which makes the American Bank fisherman the finest boatman in the world.

The low temperatures which often prevail in our western waters in winter add to the fisherman's trials. Dories often become so heavily encased in ice that they are in danger of foundering with the weight of it. Schooners also run the same danger, and it is not an uncommon occurrence for a vessel to be so heavily iced-up that she dare not venture any longer toward the coast, but is compelled to run offshore, to the warmer temperatures in the Gulf Stream.

### BRAVING THE GALE WITH LASHED WHEEL AND BARE MASTS

When on the Banks, fishing vessels do not run for harbor every time the barometer foretells a gale. The usual thing is to take it hove-to under foresail and jumbo, and this sail can be reduced down to a reefed foresail if necessary. In one tremendous winter gale, we had to haul everything off the schooner, and she lay for four hours under bare poles, with wheel lashed and all hands below.

The modern Bank fishing-schooner will make "good weather" of a hard gale and a mountainous sea and seldom take aboard any water to hurt; but life on a fishing-schooner hove-to in such weather is by no means pleasant. Its fearful leaps and plunges make it almost impossible to walk one step without hanging on to something, and the muscles of the body

become strained and sore with the jolting and swinging. To eat and sleep under such conditions as the fishermen do calls for unusual stamina.

The living quarters in fishing-schooners are in forecastle and cabin. These apartments are lined with bunks—possibly sixteen single bunks forward and four to six double bunks aft.

The galley is located in the after part of the forecastle and the mess-table is fitted between the foremast and the windlass-pawl-post. All hands eat their meals in the forecastle.

The skipper lives aft, in the cabin. In some schooners he has a little room to himself, but in a good many he sleeps in an open bunk like the fishermen. The galley stove keeps the forecastle warm, and a small "bogey," or base-burner, heats the cabin.

As fishermen are constantly wet, the stoves are kept continually fired to dry out sodden clothing.

A TYPICAL FISHING VESSEL SKIPPER

### THE FISHERMAN FEASTS LIKE AN EPICURE

Though it is a hard, cold, and hazardous existence, yet the fisherman's life has some compensations. The cooks carried are masters of the culinary art and the meals provided are of the most luxurious description. All the staples and all the luxuries go aboard a fishing vessel, and the scale of victualing is Biltmore style without the silver and cut-glass.

A fisherman is always hungry, and in addition to three square meals per diem, he indulges in a "mug-up" between times from the "shack locker," or quick-lunch cupboard in the forecastle. Tea and coffee are always on the stove.

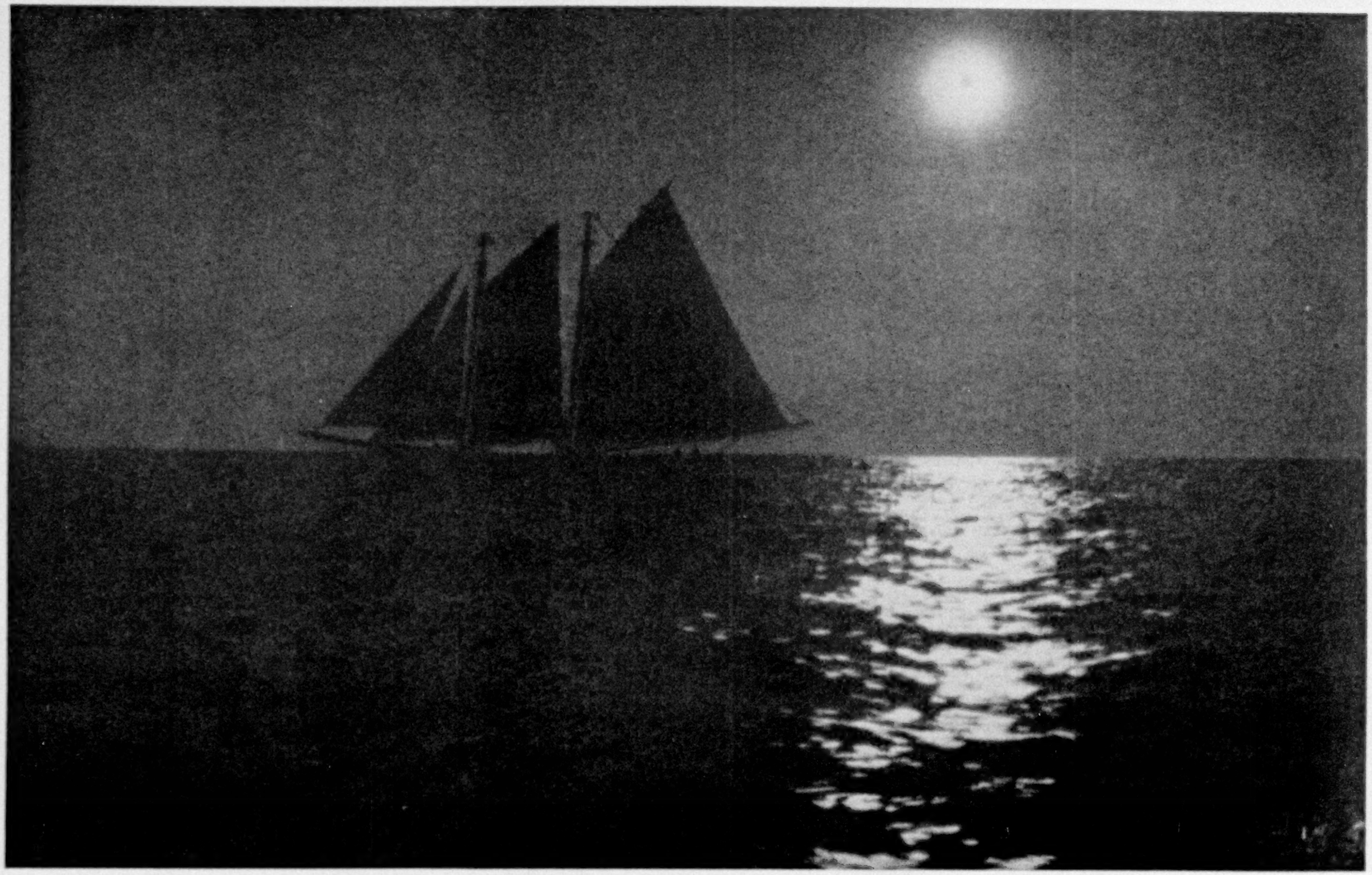
With stoves going below, it is always warm and pleasant in cabin and forecastle, and a fisherman's bunk, with a good thick quilt or blanket and a straw mattress, makes a snug sleeping place. One never sheds many clothes on retiring; the discarding of boots and jacket is enough.

The cabins and forecastles are clean and well kept. Vermin is a fisherman's horror, and the writer has known men of questionable cleanliness to be sent ashore.

There is a certain spirit of independence to the fisherman's life which makes it attractive. He is under no master but

THE BANKER'S COOK

This deep-sea chef will feed a hungry crowd of twenty-five men with a plentiful variety of well-cooked food, three times a day, in fair weather or foul.



A MOONLIGHT EFFECT ON THE GRAND BANKS

the skipper, whose rule is a fairly tolerant one. The men obey his orders without question. It is he who finds the fishing grounds, and the harder he keeps them working, the more money they will draw when the catch is sold.

A hard-driving, hard-working skipper can always pick up a crew, while the easy-going vessel master is not likely to be a big "fish-killer" and will never secure the best men.

### THE RACE TO MARKET

Then there is the sailing. A smart vessel is a fisherman's pride, and he will never lose an opportunity to try her out against other craft. Your fisherman is a sail-dragger. He believes in carrying his canvas to the last minute, just for the fun of seeing her go. To be one of a fleet of Banksmen "swinging off" for market in a stiff breeze is to confirm one in the belief that the American fisherman is the finest sailor of the present day.

Sail is crowded on the schooner until her decks are like the side of a house and the scuppers are abroil with water. Fourteen to sixteen knots an hour have often been made, and some skippers take a pride in their ability to carry canvas and refuse to reduce sail until the lee-rail is under water.

The fisherman is a pretty good helmsman and can, as a rule, steer these quick and jaunty schooners "through the eye of a needle." Their nerve in steering a vessel running before the wind and sea with the big main-boom "broad off" is often commented upon, as in heavy weather this is the most dangerous point of sailing in a fore-and-after.

### THE SKIPPER IS A MAN OF MARK IN HIS PROFESSION

The American Bank fishing skipper is in a class by himself. He is usually a fisherman with ambition, who comes out of the dory and makes a bid for the command of a vessel. It is a profession that is not overcrowded, and the successful fishing skipper is a man of mark by process of survival.

Many a man takes charge of a fishing craft and fails to make good. There is no come-back for him. Even if an owner entrusted him with a vessel again, it is doubtful whether he would get a crew. Fishermen do not sail with doubtful skippers or known failures.

The ability to sail and navigate a vessel is secondary to the ability to find and secure fish. Some skippers are lucky, but real hard work spells the story of success.

The "high-line" skippers have always been "hustlers." They hustle the vessel out to the Banks, hustle the dories over the side, and keep the crowd hustling as long as the weather allows. If it comes on to blow, they hang to the Bank until it eases off and swing the dories over while the seas are smoothing down.

Even though not particularly lucky in striking big "jags" of fish, yet the hustling policy of these skippers tells in the long run. They lose no opportunity to get the lines in the water and always plan to bring aboard some fish every day. After a week or ten days of this work, they invariably hustle off to port with a paying catch.

### MEN MUST HAVE CONFIDENCE IN THEIR SKIPPER

The successful Bank skipper must be a smart vessel-handler, to inspire confidence in his gang. They prefer to go out in the dories secure in the knowledge that the skipper can pick them up again if it comes on to blow. The skipper who gets adrift from his crowd in squall or fog will find it hard getting a crew to ship with him again.

He must be an optimist and a diplomat, to handle the independent crowd who sail with him. He must never show nervousness or fear in dangerous situations and he must be ever ready to do the right thing at the right moment.

The men pin their faith on the skipper and trust him implicitly. Should he show anxiety as to his whereabouts in dangerous waters in thick weather, or become confused when the wrong turn of the wheel may lead to a collision, his crew become panicky and will lose their faith in his ability.

He must also be something of a business man and keep the expenses of the trip down as much as possible. There is no profit in catching just enough to pay the outfitting. He is expected to know where bait can be procured at certain

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seasons and to run in and purchase it at the lowest price and without the loss of too much time, and his good judgment is called for a hundred times during a voyage.

To be at once a navigator, a sailor, a fisherman, a diplomat, and a business man makes of the American Bank fishing skipper an outstanding type, and the most of them are splendid fellows. They earn good money, but deserve every penny of it.

### THE SALT FISHERMAN'S LIFE IS EASIER

While we have taken the market Banker as a study in the foregoing, the salt Bank fisherman and halibuter present but little differences. The fishing is carried on from dories in a somewhat similar manner, but the salt fishermen, as a rule, take life easier. The season for salt fishing extends from March to October, and the schooners make from two to four trips during that period. The method of fishing by "flying sets"—towing the dories and dropping them over the Bank—is carried on to some extent by salt fishermen, but these craft usually anchor on the Bank, and the dories row away from the vessel, take up their position, and set the gear.

If fishing is good, the lines are left in the water and "under-run"—*i. e.*, the fish are taken off and the hooks immediately baited again without hauling the whole line up and taking it aboard the schooner to do so. When the fish begin to thin out, the gear is taken up and the schooner makes sail for another fishing ground.

Halibut fishing is possibly the most exciting of all. Cod, haddock, and similar species are quiet fish, with but little life in them when hauled up from the bottom. But the halibut is a fighter and has to be clubbed by the dory-men before being taken into the dory.

In the summer months, when the fish are inshore in shoal water, the halibut is a troublesome fellow to land. I remember while halibut fishing around Anticosti, in the Gulf of St. Lawrence, the terrible struggles we had with fighting halibut in forty and fifty feet of water. The writhing and squirming of a hundred-pounder would give a fisherman all he could manage in getting him aboard the dory, and very often he would have to cut the snood and let the fish go, lest by his struggling he capsize the boat.

Even when the fish has been clubbed into quietness and hauled into the dory, he will wake up and thrash the oars, thwarts, and gear overboard by the smacks of his tail. Old-time halibuters provide for this contingency by lashing the halibut's tail to the rising-strips of the boat.

In deep water, say 100 fathoms, the halibut are not so wild. The long pull from the bottom to the surface has exhausted the fish and they are more easily handled.

An instance of the daring of fishermen was seen by the writer on a halibut trip when, during a savage squall, a heavily loaded dory was half swamped by a comber. The two dory-mates tied lines to some of the fish and hung them overboard to lighten the boat, while one man bailed and the other kept the dory bows-on to the sea. Unable to row down to the schooner with the fish overside, they remained thus for two or three hours, until the vessel worked to windward of them and picked them up.

### HAND-CAUGHT FISH ARE SUPERIOR

In addition to long-lining from dories, a few vessels fish by means of hand-lines from dories. Hand-line dories are a trifle smaller than the others and one man usually fishes from them.

The hand-line is equipped with two or three hooks and a lead sinker, and the fisherman will operate several lines at a time. Cod and haddock caught by hand-line are conceded to be superior to long-line-caught fish, and this method is employed in both fresh and salt Bank fishing.

The age of the clipper ship and the seamen who sailed them is gone, but in the American Banksmen we find the smartest sailing craft and the smartest sailormen afloat today. But the steam and motor trawler is coming into the American fisheries and many of the tall-sparred schooners are having their sails and masts cut down and internal-combustion engines installed.

In a few years from now the schooner fleet will give way to power and the sailor-fishermen who drove these smart and able hookers over the seas will have evolved into sea-mechanics.

Photograph by Creté, Ltd.

TWO BRETON M'SELLES

The peasants of Brittany wear costumes of the same design from generation to generation. Women and girls wear snow-white linen collars and lace-bordered caps in a wide variety of shapes. Each peculiarity of design has its meaning, and indicates the home district of the wearer. These two young women live at Huelgoat, a village in Finistère, the westernmost department of France, whose largest city is Brest.

Photograph by Creté, Ltd.

WHERE THE HUMBLE SARDINE REIGNS SUPREME

Douarnenez, situated on the fine bay of the same name, on the northern Atlantic coast of France, is an important center of the sardine industry. Hundreds of sturdy little fishing boats put out from here, and return laden with myriads of miniature fishes, to be packed into tins and shipped to all the world.

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Photograph by Creté, Ltd.

DRYING SARDINES IN BRITTANY

Men, women, and children depend upon the sardine for a livelihood in Brittany, and a hard winter, which interferes with the fishing, brings distress to all the people. Breton fishermen are numerous in the French navy, and it has been estimated that nearly three-quarters of its best seamen received their early training on stormy seas in the sardine fleet.

Photograph by Creté, Ltd.

BRITTANY IS A LAND OF LEGEND

Relics of the Druids in the form of these great megaliths are scattered over the Breton moors, and many are the weird stories which the peasants tell about them. The hieroglyphs of Egypt and the cuneiform script of ancient Babylonia and Assyria are simple when compared to the mystery of these monuments of a forgotten race. The Breton wife who wishes to become a mother believes that her hopes will be realized if she stands beside the stone shown in this illustration.

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Photograph by Creté, Ltd.

INSIDE A BRETON HOME

The one-room Breton farmhouses have floors of hard-trodden earth; the ceilings are ribbed with rough-hewn rafters, from which hang knives, forks, pans, pots, dishes, and other household articles. The beds, or bunks, one above another, occupy niches in the thick walls and have sliding panels, to be closed when the beds are not in use. Beneath the bottom bunk is usually a compartment where the family linen is stored. Sunlight and fresh air are strangers to such interiors.

Photograph by Creté, Ltd.

UPS AND DOWNS IN BRITTANY

In ancient days this little town of Carhaix, which is now known chiefly for its excellent breed of cattle, was a place of importance and capital of the Osismii, one of the tribes of Gaul which took an active part in the wars against Cæsar. The remains of a Roman aqueduct are still to to be seen here.

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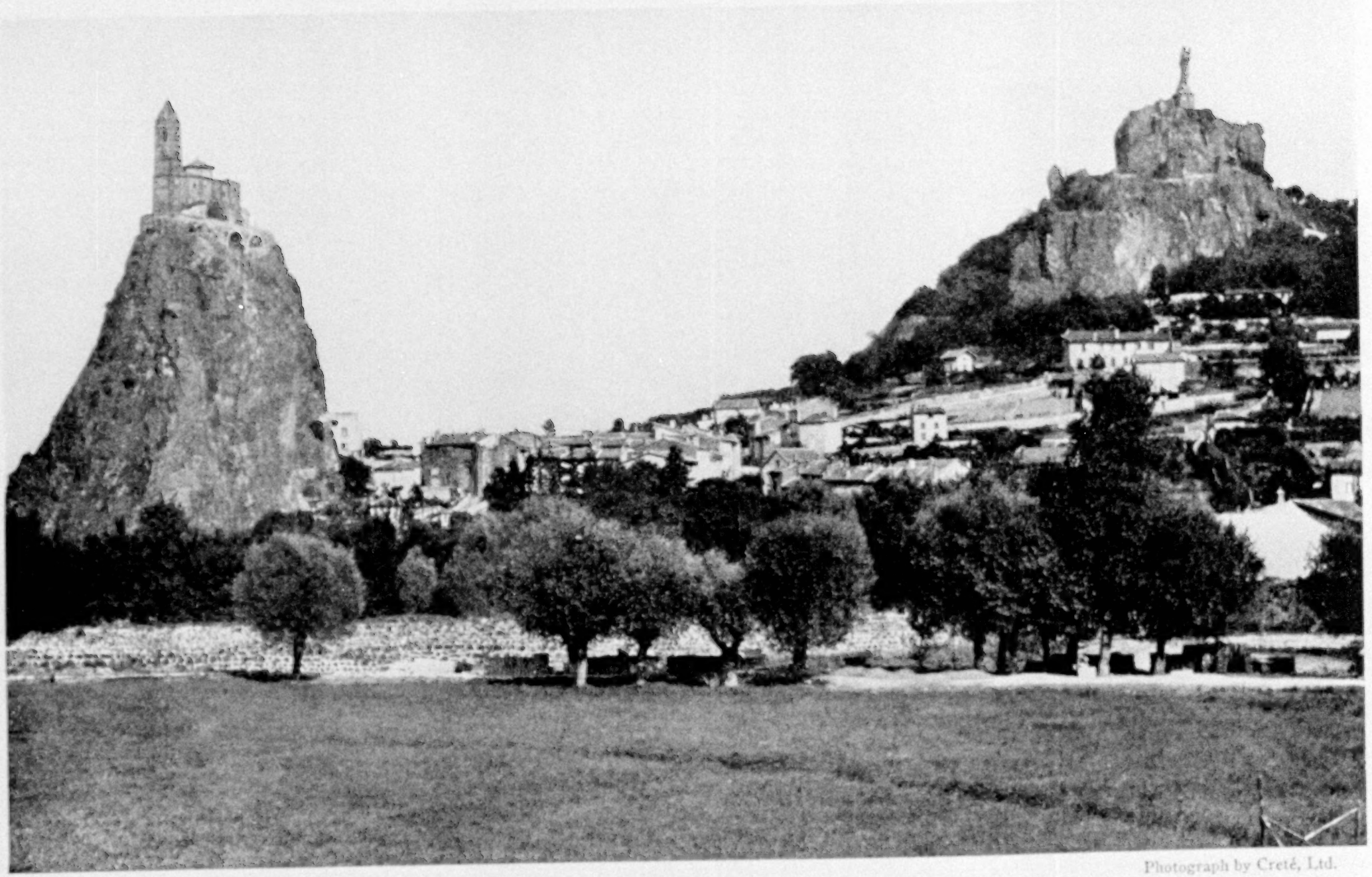
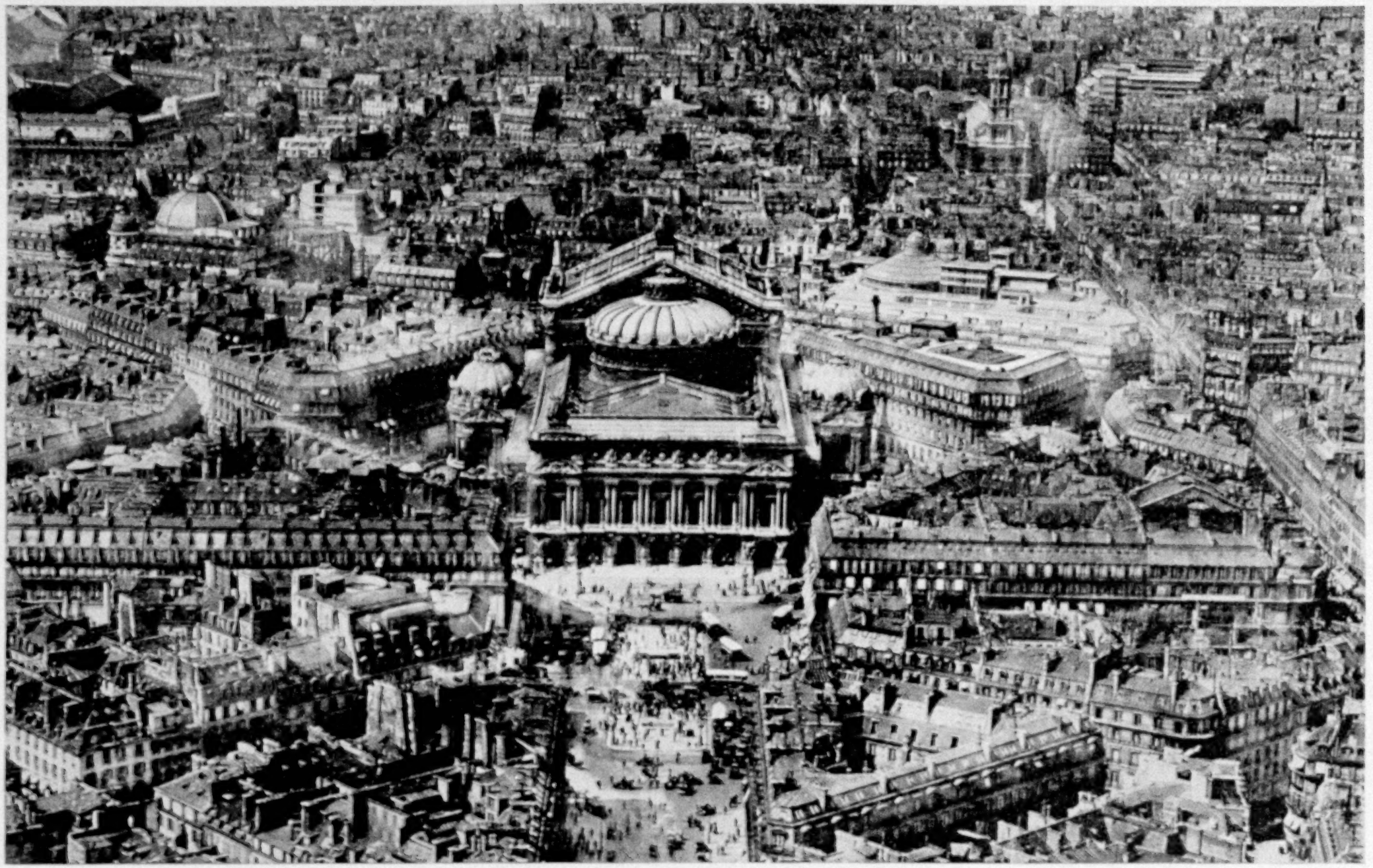


Photograph by Creté, Ltd.

IDENTIFYING FEATURES OF THE CITY OF LE PUY, IN SOUTHERN FRANCE

At the left, on the top of a basalt rock, stands the tenth-century Romanesque Chapel of St.-Michel d'Aiguilhe. At the right, on the top of a still higher rocky upthrust, is the colossal statue of Notre-Dame-de-France, molded from the metal of more than 200 Russian cannon taken at Sebastopol, in the Crimean War. The city proper, containing many fine medieval houses, lies to the right.



Photograph by U. S. Army Air Service

THE CENTER OF MODERN PARIS

Looking down upon the Place de l'Opéra and the Opera itself, the airman beholds the very heart of "gay Paree." Entering the square from the lower left is the famous Rue de la Paix, which is the Mecca of the feminine heart of every land. Modistes, jewelers, and perfumers pay fabulous rents for the most modest quarters here and dispense their wares to an appreciative world. Flanking the square, but not on the Rue de la Paix itself, is the Café de la Paix, around whose sidewalk tables sit and gossip all the races of the earth.

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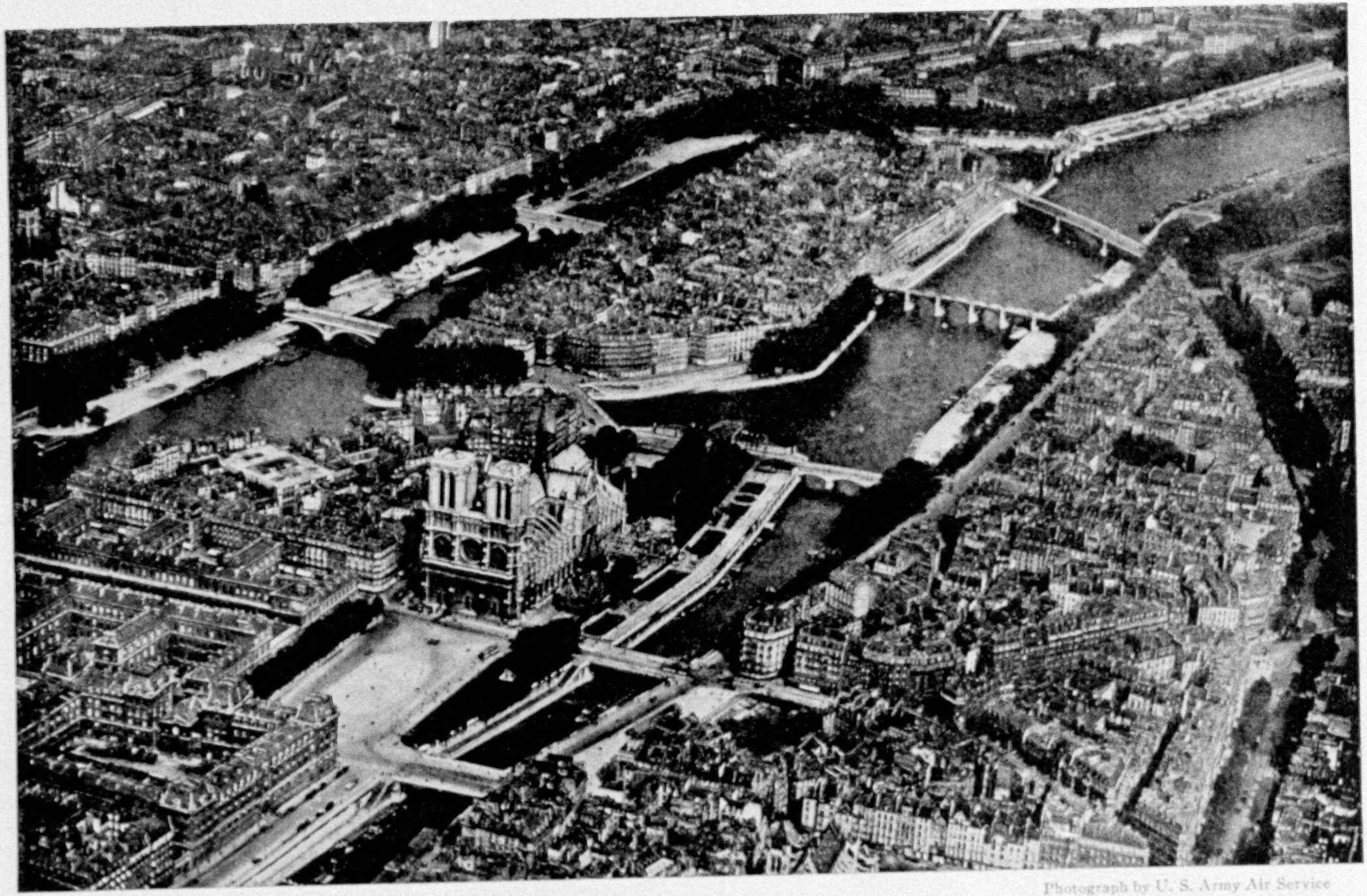


Photograph by U. S. Army Air Service

THE ILE DE LA CITÉ AND THE CATHEDRAL OF NOTRE DAME: PARIS

On this little island in the Seine was established the beginning of the French capital long before Cæsar's armies swept northward. Here was the Gallic town of Lutetia Parisiorum. For years this was the center of the city and the site of the royal palace. Now there are several public buildings here, but its principal object of interest is the Cathedral of Notre-Dame and the Sainte-Chapelle of the Palais de Justice, which was once the royal palace. Beyond is seen the Ile St. Louis, connected with the larger island by a bridge behind the cathedral.

Photograph by U. S. Army Air Service

THE CHAMPS ELYSÉES AND THE ARC DE TRIOMPHE: PARIS

In the Place de l'Étoile, from which twelve wide avenues radiate, is Napoleon's triumphal arch, which he began in 1806 to commemorate his victories. The Champs Elysées is the matchless boulevard joining the Place de la Concorde and the Place de l'Étoile. Four sculptural groups decorate the pillars of the arch, and under the cornice are panels bearing the names of the principal Napoleonic victories. The Avenue de la Grande Armée, a continuation of the Champs Elysées beyond the arch, leads to the Bois de Boulogne and Neuilly, where stands the great hospital in which were located the wards maintained by members of the National Geographic Society during the World War.

Photograph by U. S. Army Air Service

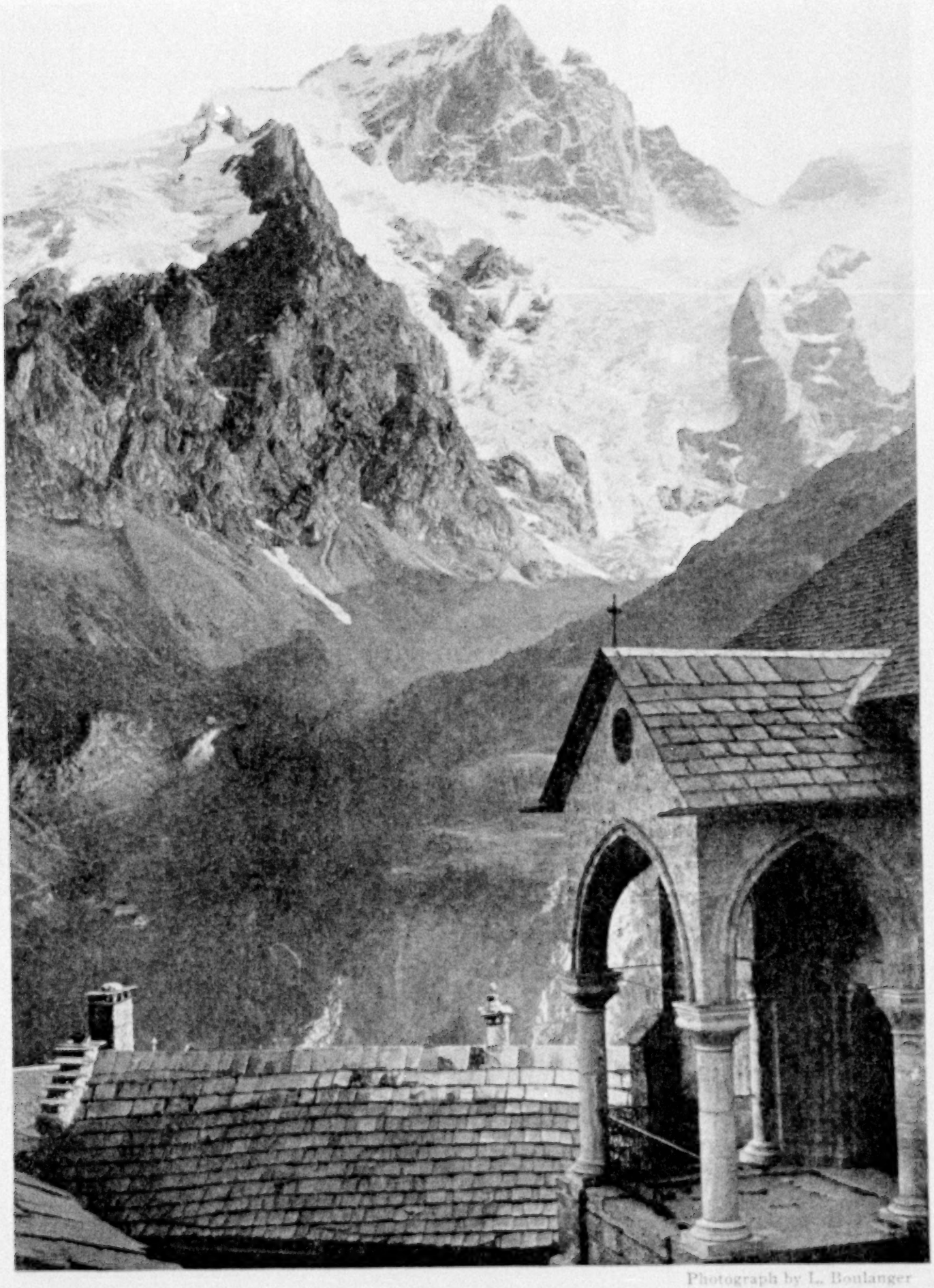
THE PLACE DE LA CONCORDE AND THE MADELEINE: PARIS

The obelisk which rises in the center of the Place de la Concorde resembles the "Cleopatra's Needle," which stands in Central Park, New York. Around the edges of this great square are statuary groups representing eight principal cities of France. The Strasbourg group wore mourning for nearly 50 years, but is now decked with wreaths to celebrate the restoration of Alsace. Facing the square to the left is the Hotel Crillon, where the American delegates to the Peace Conference were quartered. The famous Madeleine, or Church of St. Mary Magdalene, with its Corinthian colonnade, stands out clearly in the picture, while the dome of the Opera may be seen at the upper right. The famous restaurant, Maxim's, is on the left of the street leading from the Place de la Concorde to the Madeleine.

Photograph by Crete, Ltd.

A PEASANT GIRL OF NORMANDY

The Norman is a model of industry and thrift, even in France, where the common people are noted for making the utmost of their resources. While the Norman farmer is at work in his fields, his wife and daughters are making butter, tending the poultry, weaving lace, or spinning wool. In out-of-the-way places the beautiful old Norman dress may still be seen.



Photograph by L. Boulanger

THE MEIJÉ, IN THE DAUPHINY ALPS

The scenery in this part of southeastern France, on the border of Italy, is sublime, though desolate, but is rendered accessible by modern engineering in the construction of good roads. This peak, by no means the highest, is one of the group of lofty summits lying entirely within French territory. Among mountaineers its ascent is noted for its difficulties, and to have climbed it is admission to exclusive mountain-climbing circles.

XUM

Photograph by Keystone View Company

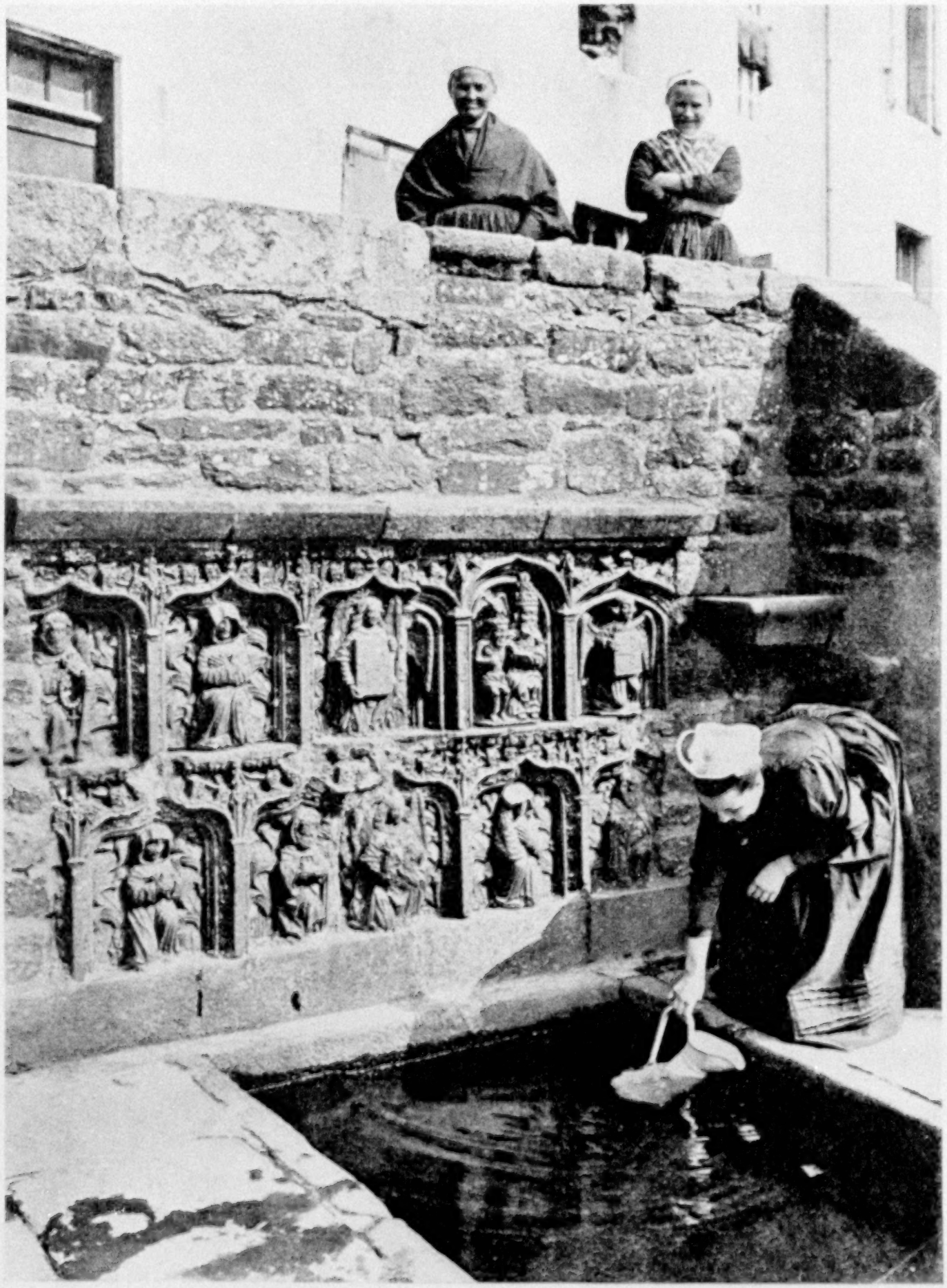
MAN'S HIGHEST TOWER

Like a great steel finger pointing toward heaven, the Eiffel Tower is to be seen from almost every point in Paris; but this view, through the doors of the Trocadéro, is most attractive. The height of this structure is just under a thousand feet, and of the several platforms the highest, where 800 people may gather, is 905 feet above the street. Above this there is a balcony, from which, on a clear day, one may see more than fifty miles. At the very top is a meteorological observatory and a wireless station.

Photograph by Cretè, Ltd.

A WOMAN OF AUVERGNE

Below Paris, in the direction of the Pyrenees, lies the old French province of Auvergne, which is now divided into several departments, as the states of the French Republic are called. This is an old volcanic district, but no eruptions have occurred in historic times. The people resemble the Bretons of the north in their mode of living, but their costumes are quite different.



Photograph by Creté, Ltd.

ANOTHER REBEKAH AT THE WELL, THIS ONE A BRETON

This ancient and picturesque fountain in the little town of Landivisiau, Finistère, northern France, is named for St. Thivisiau, the patron of the locality. Unfortunately, the story of the carved stone panels which form its decoration has been lost in antiquity.

# THE GEOGRAPHY OF JAPAN

## With Special Reference to Its Influence on the Character of the Japanese People

By Walter Weston

Author of "Mountaineering and Exploration in the Japanese Alps" and "The Playground of the Far East"

THE islands of the Japanese Archipelago have been likened by the fertile fancy of its native geographers and poets to a garland of flowers or a girdle of jewels adorning the western margin of those far Eastern Seas. In prosaic fact, they really form the summit ridge of a stupendous mountain chain that rears itself from some of the profoundest ocean depths yet fathomed.

The main features of this gigantic mass quite clearly prove its geological kinship with the Asiatic mainland. The long, sinuous crest of these mountain islands of Japan forms the advanced frontier of eastern Asia.*

The bed of the ocean between Korea and Japan, near the Tsushima Straits, is so shallow that a comparatively slight upheaval of it would afford dry-land communication from one to the other. In the extreme north, at the island of Sakhalin, the distance from the Asiatic mainland can readily be crossed in a small canoe.

This fact has an important bearing on the flora of the Japanese Alpine regions, for its peculiar admixture of Alpine and northern plant forms points to its transmigration from Kamchatka and eastern Siberia, carried thence southward by the violent monsoons and currents, and then driven up the mountains by valley winds.

### MANY POINTS OF SIMILARITY BETWEEN JAPAN AND THE BRITISH ISLES

There are many striking and suggestive points of resemblance between the islands of Japan and those of Britain. Just as Britain was close enough to the Continent of Europe readily to receive its civilization and religion, while maintaining the independence characteristic of an island race, so it has been with Japan.

It is from the Asiatic mainland that Japan has derived all its ancient arts, religion, and civilization—chiefly from China, either direct or by way of Korea.

It is freely admitted by the Japanese that practically the only item of the amenities of life for which they have not been in the past indebted to the Celestial Empire is their love of cleanliness. Almost every Japanese, whenever possible, has a hot bath at the end of his day's toil, whereas the Chinese rarely, in any sense, gets into hot water (if he can possibly get out of it), and he is popularly said to observe sarcastically, "What a dirty fellow a Japanese must be to need washing so often!"

Both in area and population Japan proper somewhat exceeds the British Isles, having 150,000 square miles as against 121,000, and 57,000,000 inhabitants compared with 45,000,000.

### ONE MILE OF COAST FOR EVERY NINE SQUARE MILES

These islands are remarkable for the length of their coast-lines, which, compared with the area, give a ratio of one mile of coast to nine square miles of land. The ratio in the case of the British Isles is one mile of coast to thirteen square miles. With this deeply indented coast-line, there are many good natural harbors, though these are mostly confined to the Pacific coast.

The shores abound in rich supplies of fish of many kinds, which have for centuries constituted one of the chief articles of the daily food of the Japanese people, and the fishing industries have served to rear a hardy race of seafaring folk.

Yokohama, the chief seaport of the Empire, lies in practically the same latitude as Gibraltar, while the central portion of the great range of the "Japanese

*For a map of Japan, see the National Geographic Society's "Map of Asia" (size, 28 x 36 inches), published as a supplement with the May Geographic.



XUM

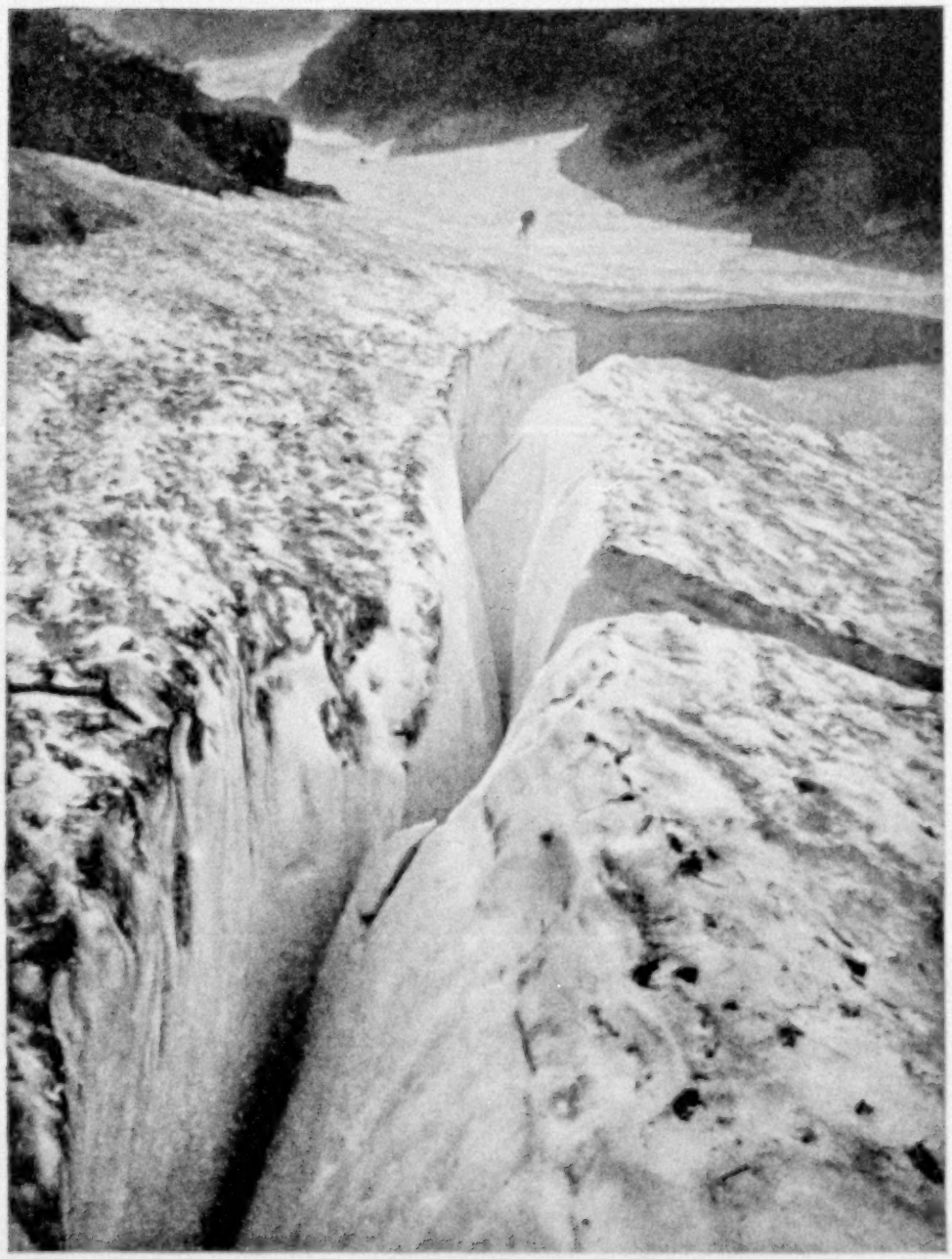
© International Film Service

THE JAPANESE FARMER IS REALLY A GARDENER

In the land of Yoshihito, almost every plant is raised by hand, for there are five Japanese for every acre of land under cultivation. Only a small part of Japan is cultivable, the whole group of islands being very mountainous.

MAKING UP THEIR MINDS WHETHER OR NOT TO ATTEND THE "MOVIE" ADVERTISED BY THE POSTERS

The Japanese photoplay is melodramatic in its scope, and a would-be actor without a full equipment of swords and a white bandage with which to bind up his head would run little chance of posing for the camera.



Photograph from Walter Weston

A SNOW CREVASSE IN THE NORTH JAPANESE ALPS

Alps" corresponds in latitude and elevation with the Sierra Nevada of Spain.

### AN AMAZING VARIETY OF SCENERY

The aspects of Nature in Japan, as in most volcanic countries, comprise an amazing variety of savage grandeur, appalling destructiveness, and almost heavenly beauty. From the mountains burst forth volcanic eruptions; from the land come tremblings; from the ocean sweeps in the dreaded tidal wave; over it rages the typhoon. Floods of rain in summer and autumn give rise to landslides and inundations. Along the coast the winds and currents are very variable. Sunken and emerging rocks line the shore.

All these make the dark side of Nature to cloud the imagination of man, and to arouse a nightmare of superstition in many untutored minds. Yet Nature's glory outshines her temporary gloom. The pomp of a luxurious vegetation, the splendor of the landscape, the clearness of the air, and the variety of the climate serve both to soothe and to enliven the spirits of man.

The majority of the inhabitants rarely see ice over an inch thick or snow more than 24 hours old. The surrounding ocean and the variable winds temper the climate in summer; the Kuro Shiwo, the "Gulf Stream" of the Pacific, modifies the cold of winter.

### JAPANESE CHARACTER MOLDED BY ENVIRONMENT

These, then, are among the main influences of Nature in modifying and forming the physique and character of the people who inhabit Japan.

Add to the varied and violent contrasts the fact that the majority of the people dwell in houses mainly built of wood and paper, and therefore subject to sudden and complete destruction by fire, and we shall not be surprised to find them lively, impressionable, and artistic; but also, from the constant and imperative need of repairing the ravages wrought by these agencies, stoical, persevering, and withal, somewhat fatalistic.

The geographical features of Japan have much in common with those of ancient Hellas. In both there is the same combination of mountain, valley, and plain, a deeply indented coast-line, with its bays, peninsulas, and islands off the coast. Few places inland are far removed

from the mountains, and not any are really distant from the sea.

In each case the configuration of the country conduced to the formation of small communities, and to kindle the spirit of independence; for just as Greece was, in a political sense, not one country, but a multitude of independent states, often exceedingly small and always jealous of their individuality, so, until the immense changes wrought by the transformation during the last fifty or sixty years, of intercommunication between the inland provinces of feudal Japan and those on the coast, many of those provinces had their own types of people, with numerous distinguishing differences of appearance, dialect, customs, and characteristics.

Photograph from Walter Weston

HAVING A HOT BATH AT THE SHIRAHONE SPRINGS, AMONG THE JAPANESE ALPS

Japan is rich in the possession of more than a thousand hot springs, to which the peasantry resort in multitudes (see text, page 51).

### JAPANESE PARALLELS IN ANCIENT GREECE

Satsuma, in the extreme south of Japan, in many ways resembled Sparta, with its Lacedæmonians, both in inaccessibility of geographical position and in the character of its inhabitants. Both were stern, dour, unliterary, and somewhat harsh to strangers.

The dullness of the Bœotians finds its counterpart in that of some of the remoter peoples of the northern provinces of Japan; while Athens, intensely social, literary, and comparatively liberal in its intercourse with the outer world, has its own parallel in Kyoto, the old Japanese capital of the feudal days.

In the case of each country, the land was on all sides well protected, and yet also open to the sea; and in each case there was free access for commerce and civilization from early times, while the art of navigation was cultivated to an extent that bred a race of hardy and capable seafaring folk.

In each case the soil of the country, generally speaking, is only moderately fertile—a fact conducing to the industry and comparative frugality of the majority of its inhabitants.

It is as true of the Japanese today as of the Greeks of old, that a study of their natural surroundings affords a clue to their history.

When, as Mr. Freshfield writes in

Photograph by A. Nielen

JAPAN DRESSES HER TREES FOR WINTER

These jackets, or hoods of straw, are put over the tender tree-tops in autumn to protect them against frost.

"Mountains and Mankind," we see how the Greeks "seized eagerly on any striking piece of hill scenery and connected it with a legend or a shrine"; how "they took their highest mountain — broad-backed Olympus—for the home of the gods"; and how "they found in the cliffs of Delphi a dwelling for their greatest oracle and a center for their patriotism"—when one remembers all this, one has but to substitute such names as that of the far loftier "peerless peak" of Fuji-san (Fuji-yama), or of Ontake, up to whose sacred summit-shrine the white-robed pilgrims toil by thousands, in sunshine and in storm, to worship; or of those still holier fanes in far-off Ise in Yamato, where only the Emperor himself or his chosen representative may enter, on behalf of his people, to hold converse with the spirits of the "Divine Ancestors," in order to see how close a resemblance exists between the influence of similar physical surroundings on two peoples endowed with the like characteristics of a lively, artistic, and impressionable nature.

Had Pausanias been able to pursue an itinerary in the Land of the Rising Sun similar to that which he followed in his "Description of Greece," he would have furnished us with pictures of scenery and observation of the folk-lore and legends of Japan that would, in a hundred separate instances, have been equally true of either of these beautiful lands.

## MORE STRIKING CLIMATIC CONTRASTS THAN IN ANY OTHER LAND

The climatic conditions of Japan offer contrasts of a more striking character than any other country of similar area in the world. While in the northernmost island we have mainly subarctic features, in the southernmost we find them subtropical. Moreover, on the west coast of the main island we find both those extremes represented in the same region.

The cold, dry northwesterly winds of winter that sweep across from Siberia gather up the moisture over the Japan Sea and deposit it in a snowfall often heavy enough to bury whole villages. Intercommunication between house and house is then maintained only by means of sheltered arcades, and buildings of importance need to be identified by sign-posts stuck in the snow to indicate the "Post-office is below," "The police station will be found underneath this spot." Nevertheless, in the same region the summer is almost tropical in character.

Photograph by A. Nielen

LIKE CLOTHES ON A LINE, THE JAPANESE HANG THEIR CORN OUT TO DRY

This method of ripening and curing grain is necessary in some districts on account of excessive rains and the short summer season.

Again, while the western side of the great mountain mass of these regions exhibits leaden skies and biting winds, on the east, toward the Pacific coast, the winter is nearly always delightfully bright and sunny and snowfalls are seldom seen.

### AN AVERAGE OF FOUR EARTHQUAKES A DAY

One of the most disturbing features (in every sense) of the natural phenomena of Japan is the frequency of earthquakes. There is an average of four a day, but shocks of a very serious kind only occur once in six or seven years. The consolation is that if they came less frequently they would be more disastrous in their results.

The greatest center of activity is on the Pacific coast, near the Bay of Tokyo, and it is here also that the tidal waves are most destructive. Sometimes the loss of life from the combined agencies has amounted to over 27,000. As many as a quarter of a million houses have been destroyed at once. Active volcanoes, however, provide a safety-valve for the disquieting forces at work below the earth's crust, and consequently the regions where these are found are seldom harmed by seismic shocks.

Typhoons (or cyclones), unlike the earthquakes, can be counted upon with much more certainty, and invariably and appropriately usher in the break up of the summer heat, during the second week in September, though occasionally they appear at other times. This may be counted upon as an absolutely regular fixture. Their effects are usually more destructive on the coast, and occasionally one may find vessels of considerable size deposited high and dry in the back street of a large seaport town.

### PEASANTS DELIGHT IN HOT SPRINGS

There are more than 1,000 mineral springs to be found in the mountain regions of Japan, and in the more secluded spots they form a feature of peculiar interest. They constitute a great asset to the peasantry in those regions, who resort to them by the thousands, for the sake of health or to kill time pleasantly in the company of their friends. Whatever else may be thought of the alleged fickleness of the Japanese character, it is certain that their love for hot water has never grown cold.

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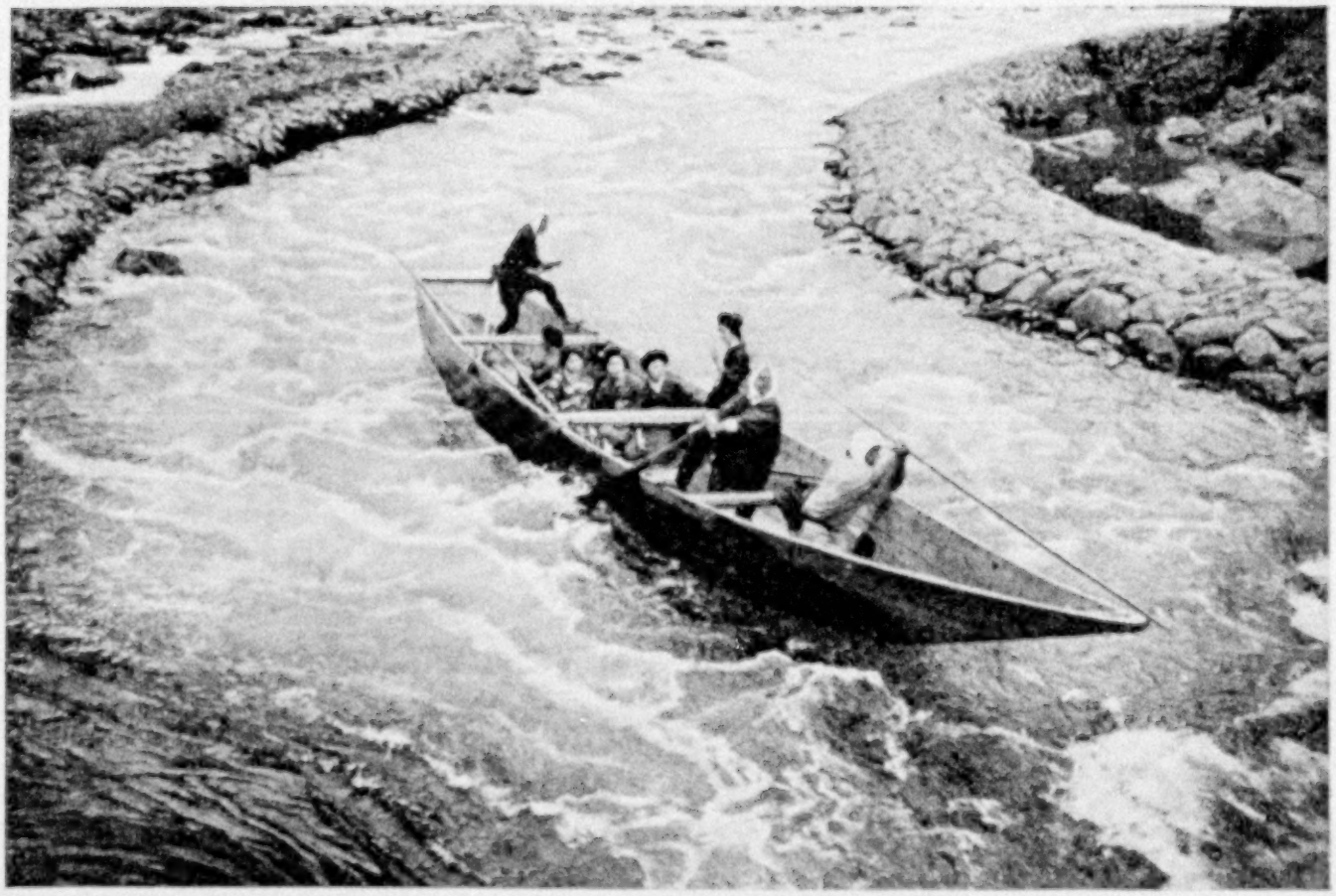
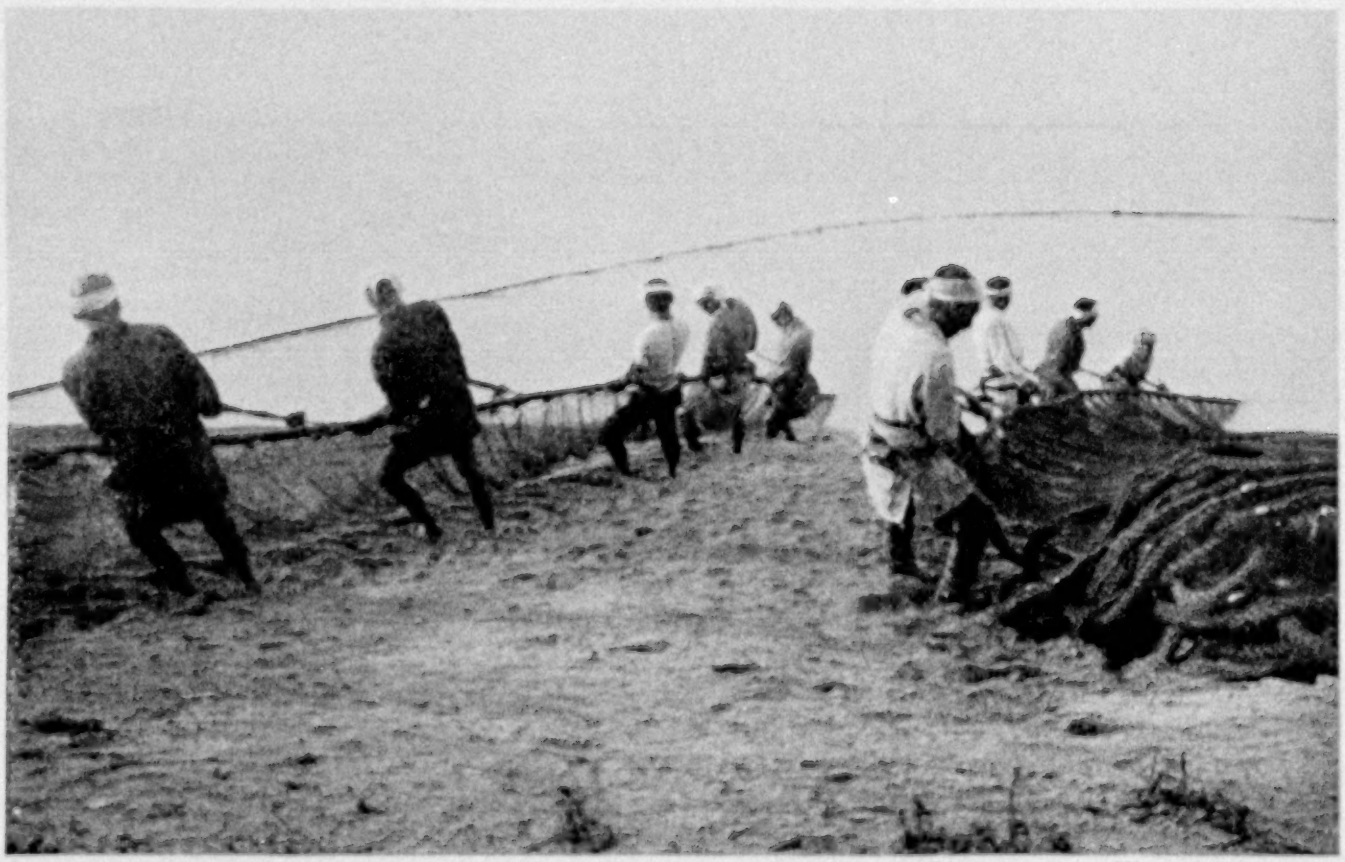


SHOOTING RAPIDS IN JAPAN

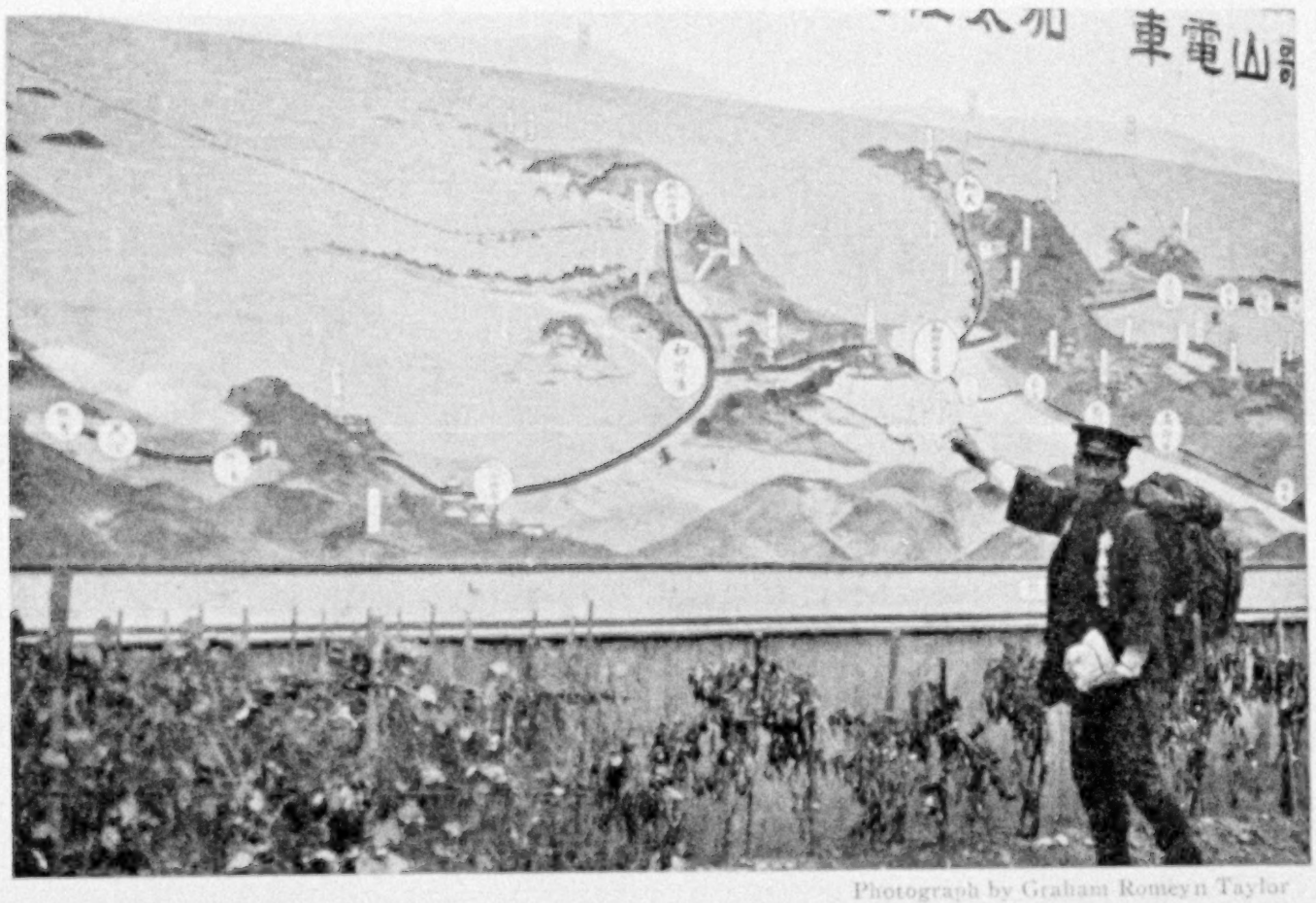
Mountain chains which extend throughout the principal islands form a watershed which makes all the rivers of the empire short and in the main swift and of little value as commerce-carriers. They present opportunities for hydro-electric development, however.



Photographs by Kiyoshi Sakamoto

FISHERS DRAWING A NET ON THE BEACH

Japan has a mile of seacoast for every nine square miles of area, as compared with Great Britain's mile to every thirteen square miles.



Photograph by Graham Romeyn Taylor

A BILL-BOARD ADVERTISING WAKANAURA, A POPULAR SEASIDE RESORT NEAR OSAKA

Not only are the Japanese railways clever advertisers, but neat bill-boards at most of the stations show the direction and distance of all places of interest from the local station.

Of one of the most noted sulphur springs it is maintained that all ailments are curable there with the exception of the disease of love!

While in some places one now finds separate compartments reserved for those who prefer to bathe more privately, it is usual in the more primitive places for both sexes to do so together promiscuously. There is here no longer found the dividing cord stretched across the big tank to denote "This side for ladies, that for gentlemen," which at one time, in some of the larger towns, was employed out of consideration for the feelings of "foreigners" on the subject. All is conducted with complete decorum and propriety.

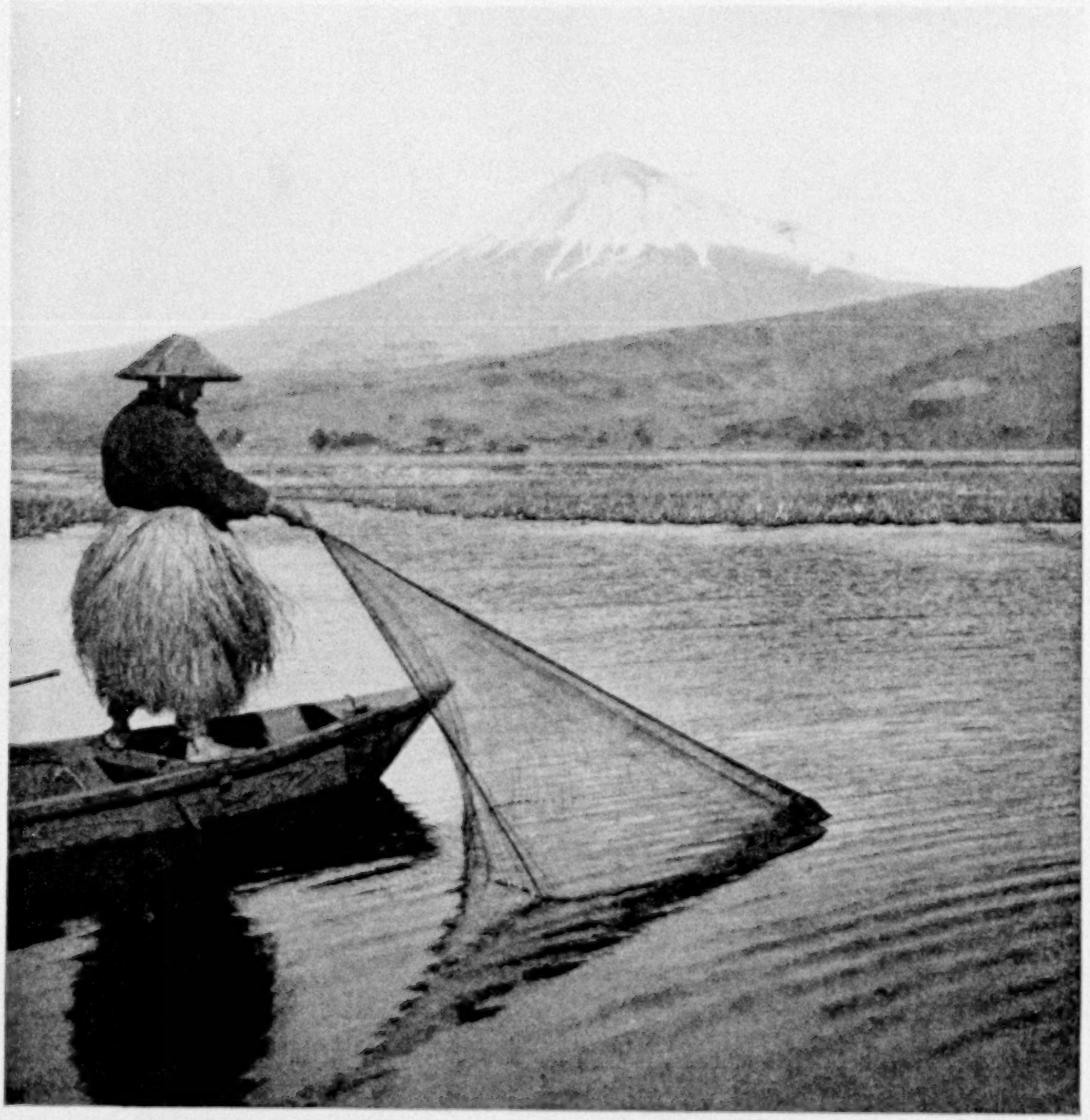
### HALF THE VARIETIES OF THE WORLD'S FLORA FOUND IN JAPAN

It is the abundant supply of moisture in every form that is largely responsible for some of the most striking and important features of the Japanese landscape—for a flora that includes half the known varieties of the earth's vegetation in an area only a little larger than that of the British Isles.

We have also to note the countless deeply cleft valleys, whose torrents find their way from high mountain ranges to the sea by narrow channels. After a storm or the melting of the snows of winter, these streams are swollen into broad, resistless floods, whose deltas open out into the ocean half a mile or more in width.

Large tracts of land are thus held in perpetual desolation, though the skill and energy of native engineers are developing methods and resources of riparian progress of growing value. Their efforts are gradually superseding the ancient ways.

Formerly the River God was honored with a handsome shrine, to which the peasantry resorted in the springtime for services of supplication in order to avert the likely destruction of their unprotected rice fields and mulberry plantations by the dreaded storms of early autumn, when the rice harvest was ripening. Today, one of the chief festivals of such a shrine is that observed in Kofu, capital



Photograph by Kiyoshi Sakamoto

MT. FUJI SEEN FROM LAKE FUJI (SEE ALSO PAGES 81 AND 84)

This, the highest and most beautiful mountain of Japan, is a volcanic cone rising from a sea-level plain to an altitude of 12,400 feet. It is snow-capped at all seasons of the year. The fisherman is wearing a grass raincoat, which covers his shoulders during a shower, but is thrust down to his hips while he is working.

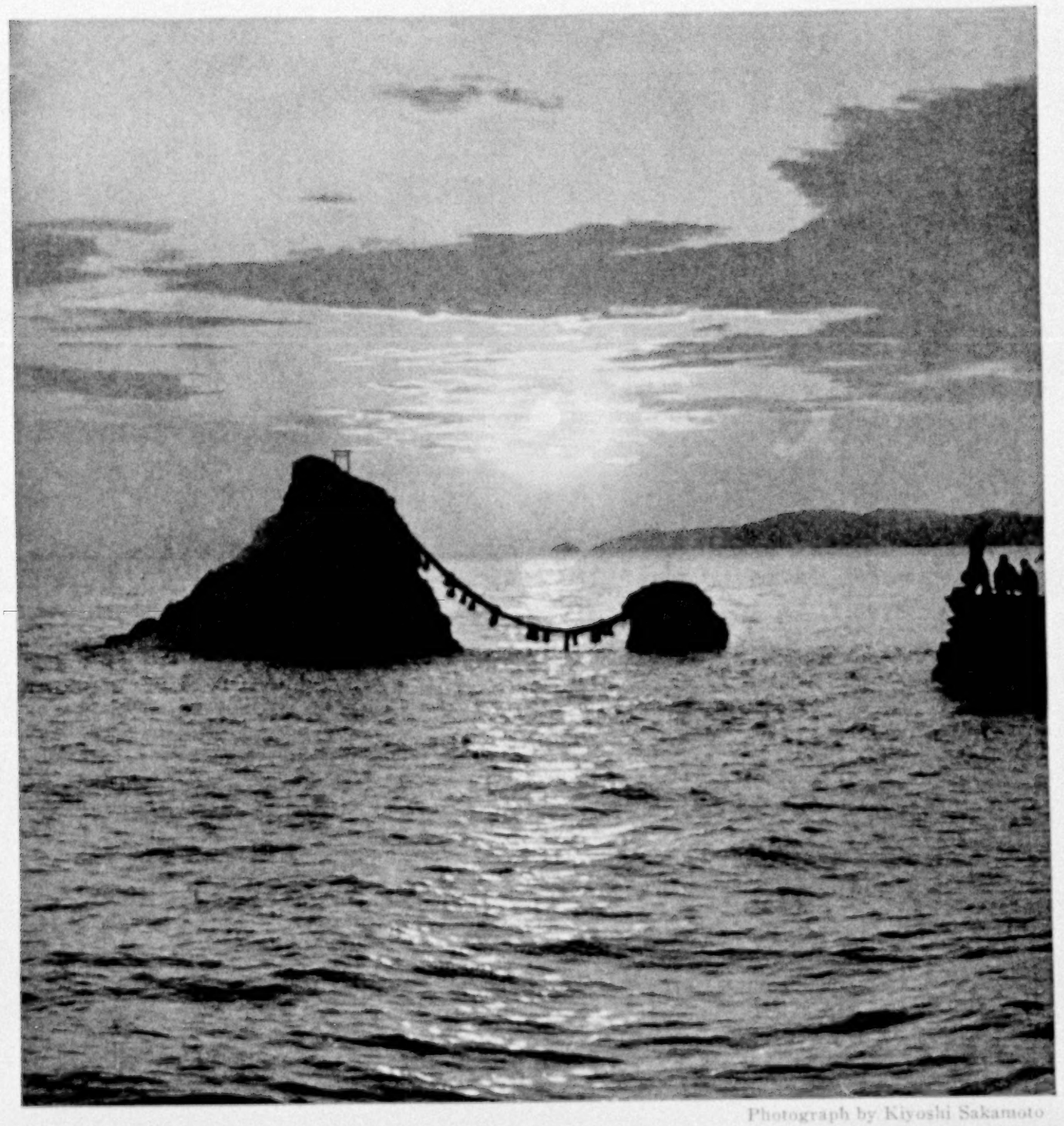
of the prefecture of Yamanashi and commercially one of the most progressive inland cities of the Empire!

### A LAND OF UNSURPASSED WATERFALLS

In the beauty and variety of its myriad waterfalls Japan is unequaled. As types of these one may select the famous cascade of Kegon at Nikko and the broad fall of Shiraito, near the foot of Fuji-san.

Kegon forms the outlet of the famous mountain volcanic lake of Chuzenji, in the heart of the region known, from its entrancing loveliness, as Nikko, the "Splendor of the Sun." It falls in an unbroken column of water into its rocky basin 350 feet below. It was noted some years ago as the popular spot for suicide in the case of students disappointed in love or in examinations (see page 80).

Shiraito, on the other hand, forms a broad series of cascades, falling over a semicircular cliff at the foot of the most beautiful mountain in Japan. The pop-



Photograph by Kiyoshi Sakamoto

SUNRISE AT FUTAMI

The "Meoto Iwa," or "Man and Wife Rocks," at Futami are connected with a "shime-nawa," or sacred rope. The Japanese worship the rocks as symbols of the God of Happiness or Marriage; hence a *torii*, or shrine-gate, on top of the larger rock.

ular description of this lovely cataract is that the two larger and the 39 smaller falls composing it are the parents and children of a family of 41 members (see illustration on page 81).

The appeal that the countless and varied natural beauties of the scenery of Japan makes to its people, both educated and unlearned, is impossible to realize or to describe, except from personal observation. It exercises a profound and universal influence on the imagination of both rich and poor, whether dwelling in crowded cities or on the countryside

## EACH GREAT MOUNTAIN HAS ITS DIVINITY

Wherever any spot of unusual loveliness is found, there rises the appropriate shrine in its honor and there is the need of admiration or adoration offered to its *genius loci*.

Each great mountain has it tutelary divinity, who may be worshiped with fear and trembling for the aversion of

A HUNTER WORSHIPING ON THE SUMMIT OF YARI-GA-TAKE

Next to Fuji, Yari-ga-take (Spear Peak) is the highest mountain in Japan. On every hand its granite spires are streaked with snow at most seasons of the year.

Photographs from Walter Weston

MOUNTAIN PILGRIMS IN A JAPANESE ALPINE VALLEY

These worshipers are bound for the shrine on the summit of the sacred mountain of Ontake. Each mountain has its particular divinity.

A NEWSGIRL WITH A BABY ON HER BACK, ON THE STREETS OF THE JAPANESE CAPITAL

Little girls of ten or twelve go about their work with doll-like babies strapped to their backs, and one often sees them playing hop-scotch while the head of a sleeping infant bobs about in time to the steps.

Photograph by Kiyoshi Sakamoto

YOUNG JAPAN PLAYING AN OLD GAME

Although military caps are most popular with children, the traditions of the two-sworded gentry, the Samurai, are kept alive by actors and motion pictures.

XUM

Photograph from J. R. Joy

A JAPANESE SAWMILL

Although Japan has more than three times as much area in forests as in land that is under cultivation, most of the lumber used in the island empire is sawn by hand. Water-power is intermittent along the short rivers, and the use of modern machinery is largely restricted to the coast cities. Even with rising wages, the sawmill does not largely compete with the man-power mill.

the evil his volcanic fires can work, or, in the case of other stately peaks, for the help he can bestow. Indeed, no description of the physical features of the chief mountain systems of Japan would be justly attempted which did not emphasize the actual psychological effects which result from the close contact of a lively and impressionable people with the splendid and varied peaks which overshadow their homes.

As in Greece, so in Japan, the most characteristic feature of the land is its mountains. They spread over the whole country and form a chief part of every view. They have constantly modified the course of historical events, and especially of military operations.

They have served, by limiting facility of intercourse, to conserve the special and peculiar features of the inhabitants of each corner of the land which they shut off from all the rest; for, in spite of the increase of railway communication in the plains, the strongly marked characteristics of many of the different provinces or districts are quite noticeable, even in the present days of transformation, where the mountain barriers hem them in.

It is the hard conditions of life in

© Keystone View Company

REELING SILK IN ONE OF JAPAN'S MANY MODERN MILLS

More than one-fourth of the world's silk is produced in Japan. Of this a large percentage is sold as raw silk and only about one-sixth of the entire amount is manufactured in Japan.

those wild and inhospitable regions that long ago engendered those habits of frugality, endurance, and self-reliance among an island race immune from invasion, and have rendered the Japanese one of the proudest and most self-satisfied patriots the world has ever seen.

### MORE THAN HALF THE PEOPLE LIVE ON THE LAND

No less than three-quarters of Japan is mountain land, to a great extent uncultivated, because uncultivable. The remaining quarter is worked with a minuteness of care and an intensity of energy of which we have little conception and to which none of our industries offers any parallel.

In spite of the growth of industrialism and the migration of so many from the countryside to the towns, still more than half the people live "on the land." Even in feudal Japan, the tillers of the soil ranked next in social status to the Samurai and above the merchants and mechanics. Those were days when Japan was secluded from the world and was forced to be self-supporting. In order to make the most of her resources, all available ground was laid under contribution.

A story is told of a farmer who terraced his own little hillside in no less than eleven tiers. At length he sat down to survey the results, but to his dismay he could see only ten terraces below him. The eleventh was invisible; he was sitting on it!

### THE EFFECT OF MOUNTAINS ON THE JAPANESE

It is, then, in the subjugation of the soil that the Japanese people (the peasantry, old and young, number more than 25,000,000) develop so much of their unwearying patience, perseverance, and cheerfulness. Moreover, it is among the soldiers recruited from among the hillmen that some of the finest campaigners are found.

During the Russo-Japanese War in Manchuria it was found that in districts where long marches over a route chiefly leading along goat paths or across trackless gullies and crags, each man having to find his own way and rejoin his company on the farther side, the native mountaineering habits of the lower ranks invariably enabled them to select the most accessible line of country.

From what I have already said, I hope I have made it clear that there is an intimate connection between the physical features of Japan and the psychological characteristics of the Japanese. A brief notice of the mountains in particular will help to illustrate their influence on the inhabitants.

Through each of the chief islands of Japan there runs a solid backbone of mountains, which, taken together, constitute three great mountain systems.

The first, or northern, of these is known as the Russian, or Karafuto, system. Karafuto is the Japanese name for Sakhalin and means the "Wave-land," in allusion to its mountainous character. Passing through Karafuto, it traverses Hokkaido (Yezo) and reappears in the mainland, which it penetrates to its center in the provinces of Kōshū, Shinshū, and Suruga.

The second, or southern, is known as the Chinese, or Kuenlun, system. This originates in the Kuenlun Mountains of the central Asian plateau and runs across central China by way of the Peling range, to reappear in the southern islands of Japan, Kyūshū and Shikoku. This system is then continued until it meets the northern, or Karafuto, system in the broadest and central part of the mainland. It is here that the profoundest valleys are cleft and the mountain summits rise to their loftiest heights in the varied and picturesque ranges known as the "Japanese Alps."

The conflict of these two systems has resulted in terrific upheavals, and then, like a mighty wedge driven in between them, there runs a vast transverse fissure, crossing the mainland of Japan at its broadest span, from the Sea of Japan to the Pacific Ocean. It is known as the Fossa Magna, or the Fuji belt, and throughout its entire length a line of erupted volcanoes has burst forth, stretching across the whole width of the island and passing southward through the beautiful hills of the famous Hakone district into the Pacific Ocean in "The Seven Islands of Idzu."

As a result of the mingling of these different ranges, we have that extraordinary variety of form and structure which gives to Japanese mountain landscape its most romantic and characteristic charm.

Mighty volcanoes, extinct, quiescent, or active, alternate with great battlements and spires of granite, or with sharp-pointed, isolated monoliths of harder rock.

### VISCOUNT BRYCE'S TRIBUTE TO JAPANESE MOUNTAINS

With this variety of outline we find vivid examples of those other factors to which the scenery owes so much—the extreme variations of temperature, the abundance of moisture, and the erosive power of the mountain torrents; and if to these we add the effect of a clear sky and brilliant sunshine during a considerable portion of the year, particularly in spring and autumn, we have the secret of that extraordinary charm of landscape of which Viscount Bryce recently wrote, that "there is probably no other country that exhibits such an endless variety of natural beauty in the shapes of the mountains and in the rich luxuriance of the trees and flowers."

There is no established evidence as to traces of glacial action yet found in the great Alpine ranges of central Japan.

XUM

Photograph by Kiyoshi Sakamoto

JAPANESE FLOWER VENDERS—WALKING BOUQUETS

A flower, the gift of sun and soil, has sacred significance to the Japanese, who tell their calendar in blossoms. First in spring, as herald of the new year, comes the plum, loved of the nightingale; then the cherry blossom, bloom of royalty, followed by the purple plumes of the wistaria, the water-haunting iris, the peony, flower of prosperity, the lotus, suggestive of spirituality, and finally that autumn glory, the chrysanthemum, which native floriculturists have developed in 269 color varieties.

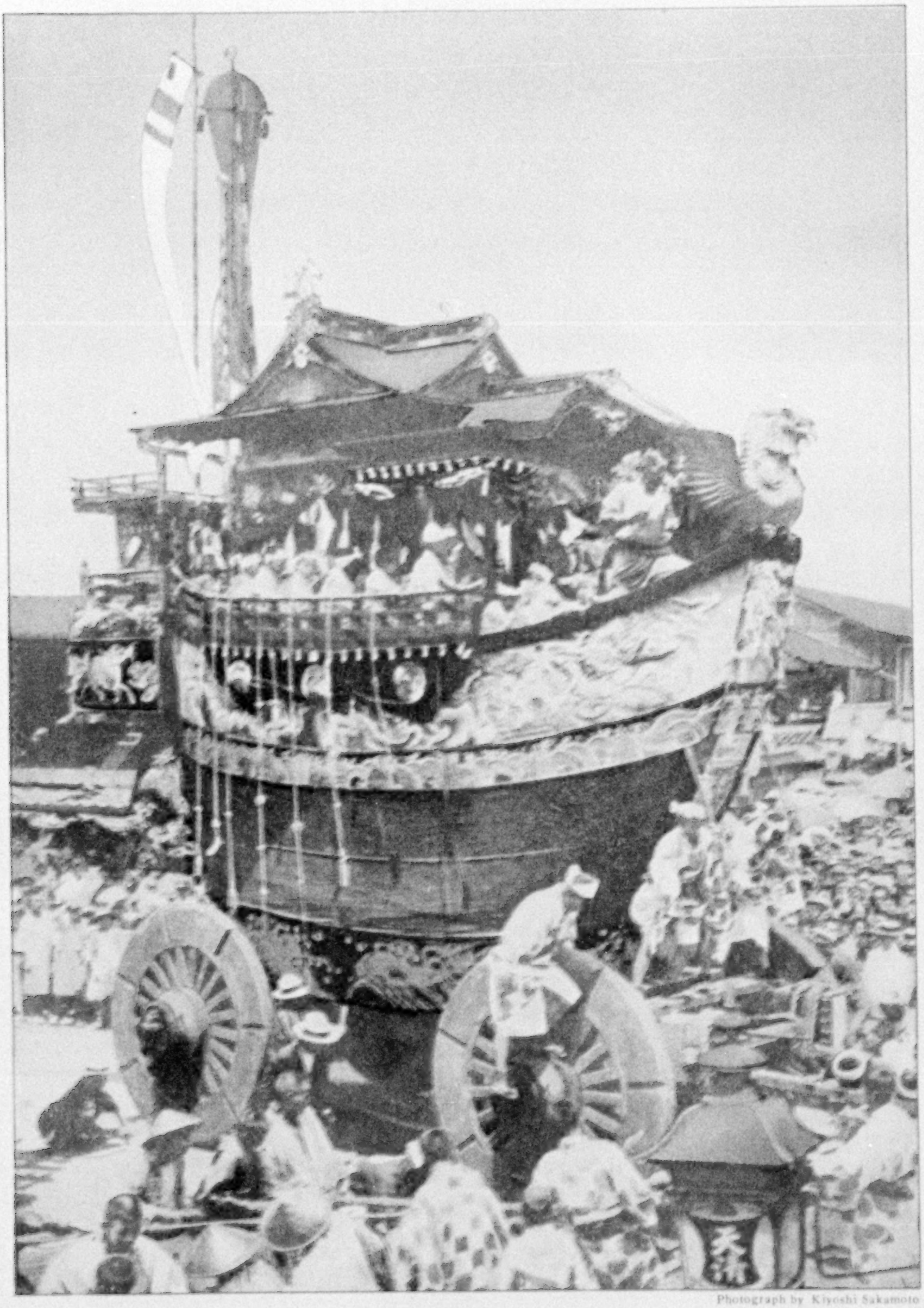


XUM

Photograph from David M. Robertson

"THE MORNING TILL NIGHT GATE" OF THE IYEYASU TEMPLE, AT NIKKO

"On the declivity of the Holy Mountain of Nikko, under cover of a dense forest and in the midst of cascades whose roar among the shadows of the cedars never ceases, is a series of enchanting temples made of bronze and lacquer with roofs of gold."—Pierre Loti. There is a Japanese proverb which says, "He who has not beheld Nikko has no right to make use of the word *splendor*."



Photograph by Kiyoshi Sakamoto

A FESTIVAL CAR IN THE STREETS OF KYOTO

The third city of Japan is famous for its beauty contests among the geishas, and for its street processions, in which towering cars of ornate design, laden with merry-makers in multihued garments, are a spectacular feature. The celebrants do not manifest their greatest pleasure by noisy demonstrations, but by silence.



XUM

Photograph by T. Enami

THE GREAT BUDDHA OF KAMAKURA

The site of a vanished capital, Kamakura is said to have sheltered more than 700,000 souls in the heyday of its glory. Today, it is a humble fishing village, having as its sole claim to fame this great bronze Daibutsŭ, the seated Buddha, with eyes of pure gold and massive boss of silver on its forehead.

A JAPANESE FARMER GIRL

There are five and one-half million farm households in Japan, and their fields, which seldom exceed two and one-half acres in extent, resemble neatly planted gardens in miniature, so precious is every inch of ground. Man, woman and child lend a hand at cultivating and harvesting.



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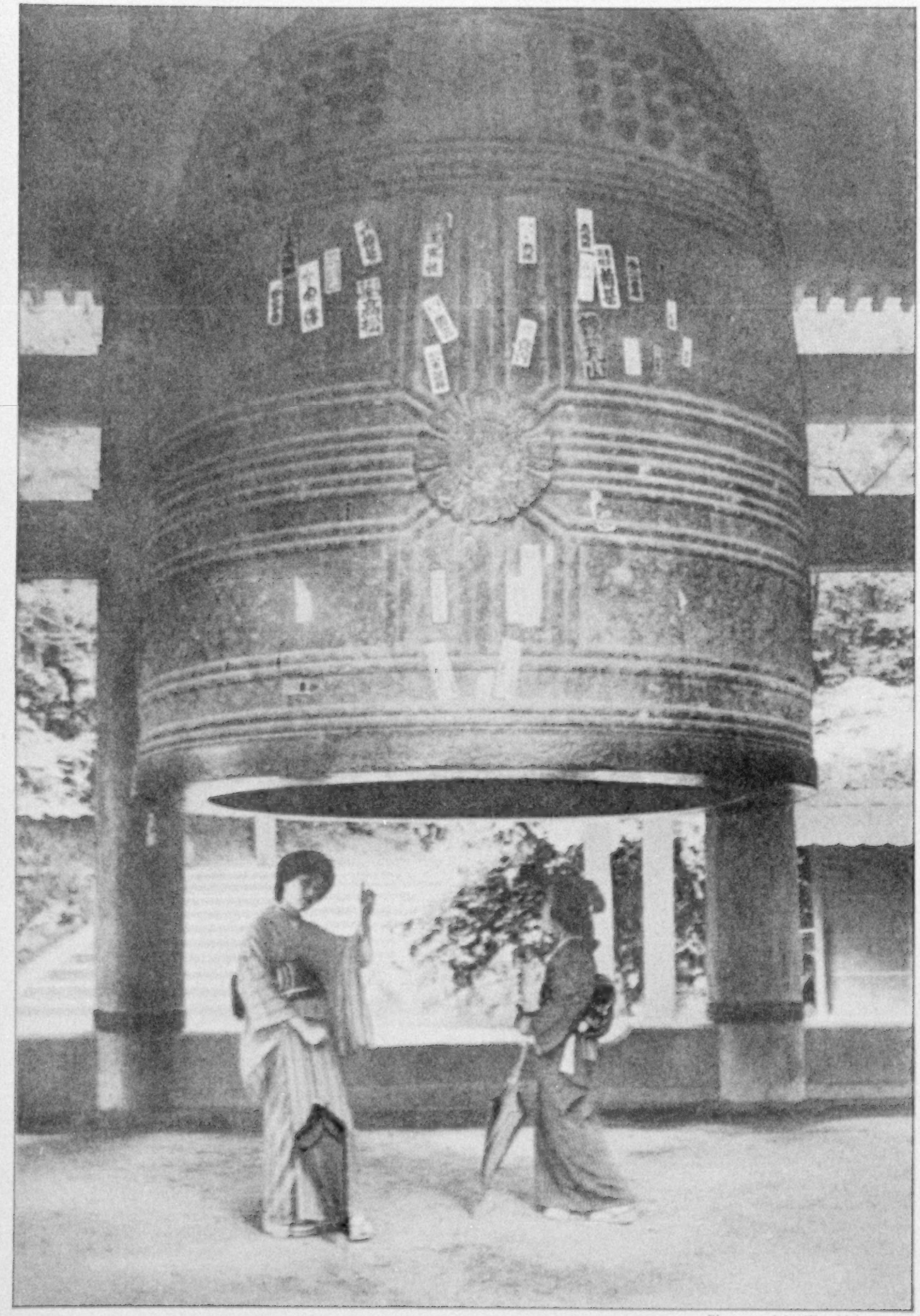

Photograph by Kiyoshi Sakamoto

THE GREAT BELL OF THE CHION-IN TEMPLE IN KYOTO

At the height of the flower season, in April, when all Japan is in festive mood, the air of Kyoto is flooded with the melodic peals from this deep-throated bell. At a distance in the stillness of the dawn, one cannot tell whence come its soft reverberations.

THE CLAM DIGGER LIKES HER WORK

Two and one-half million people of Japan look to the sea for a livelihood, and there are more than 400,000 fishing craft which ply the surrounding waters. Fishermen's widows and orphans abound in every seaside village, for the storm takes an annual toll of a thousand seafarers in small boats.



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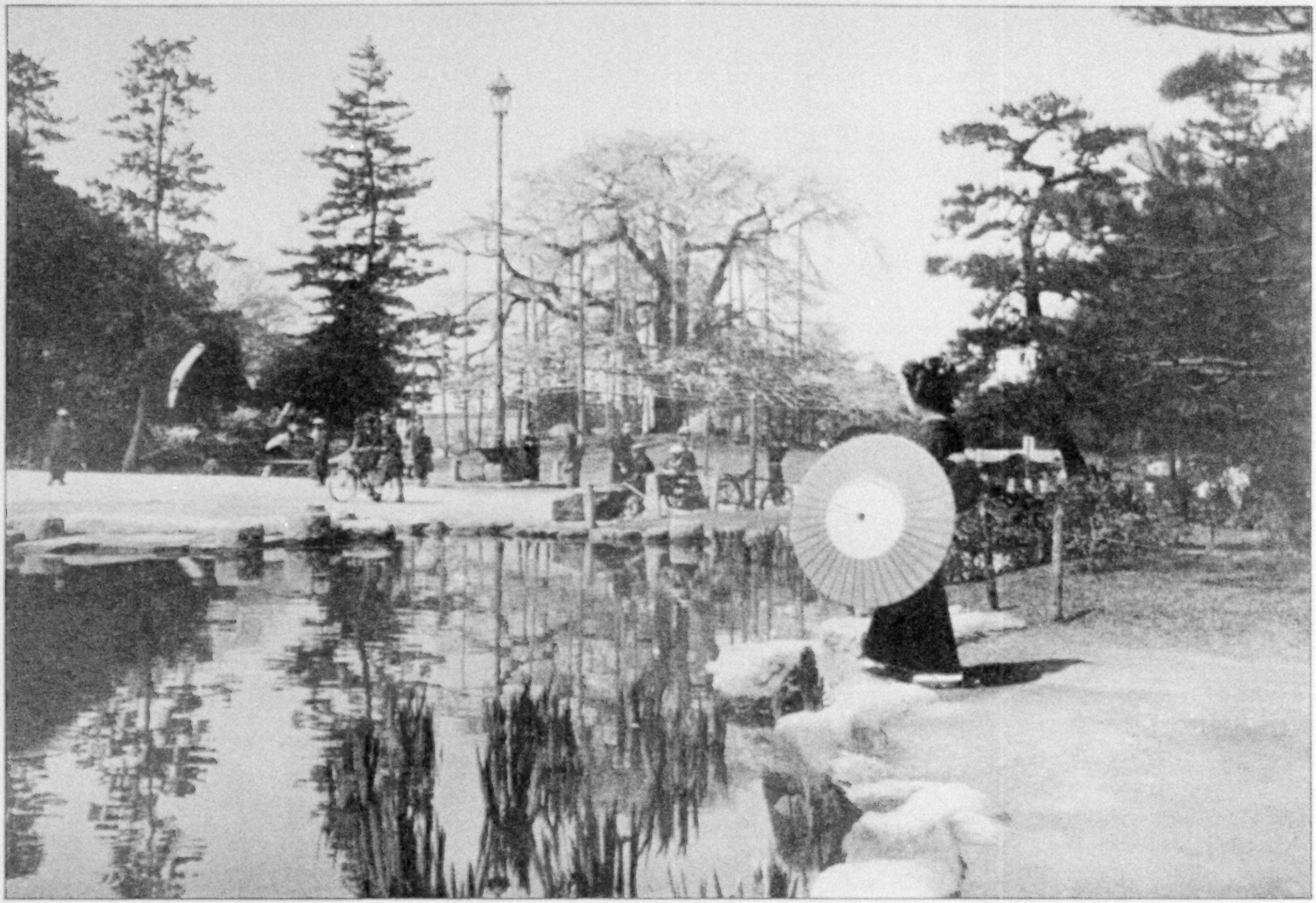

Photograph by Kyoshi Sakamoto

CHERRY BLOSSOM TIME IN KYOTO, MARUYAMA PARK

One of the chief attractions of this popular resort of the people of Kyoto, which was the capital of Japan for more than a thousand years, is a large cherry tree with drooping branches. Here at night, in the latter part of April, thousands gather to see the blossoms by torchlight

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Photograph by Kiyoshi Sakamoto

JAPANESE GIRLS LAVING THEIR HANDS BEFORE WORSHIPING IN THE KIYOMIDZU-DERA, KYOTO

This temple is dedicated to Kwan-on, the Japanese god whose famous image has eleven heads and a thousand hands. The original buildings, erected many centuries ago, were destroyed by fire and only the image of Kwan-on was saved.

Photograph by Kiyoshi Sakamoto

GATHERING IRISES IN A JAPANESE GARDEN

A week in June is set aside for the iris fêtes. Among the most famous iris gardens of the Land of the Rising Sun are those in Hori Kiri, where acres of these fleurs-de-lis form a marvelous carpet of varicolored blossoms.

XUM

Photograph by Kiyoshi Sakamoto

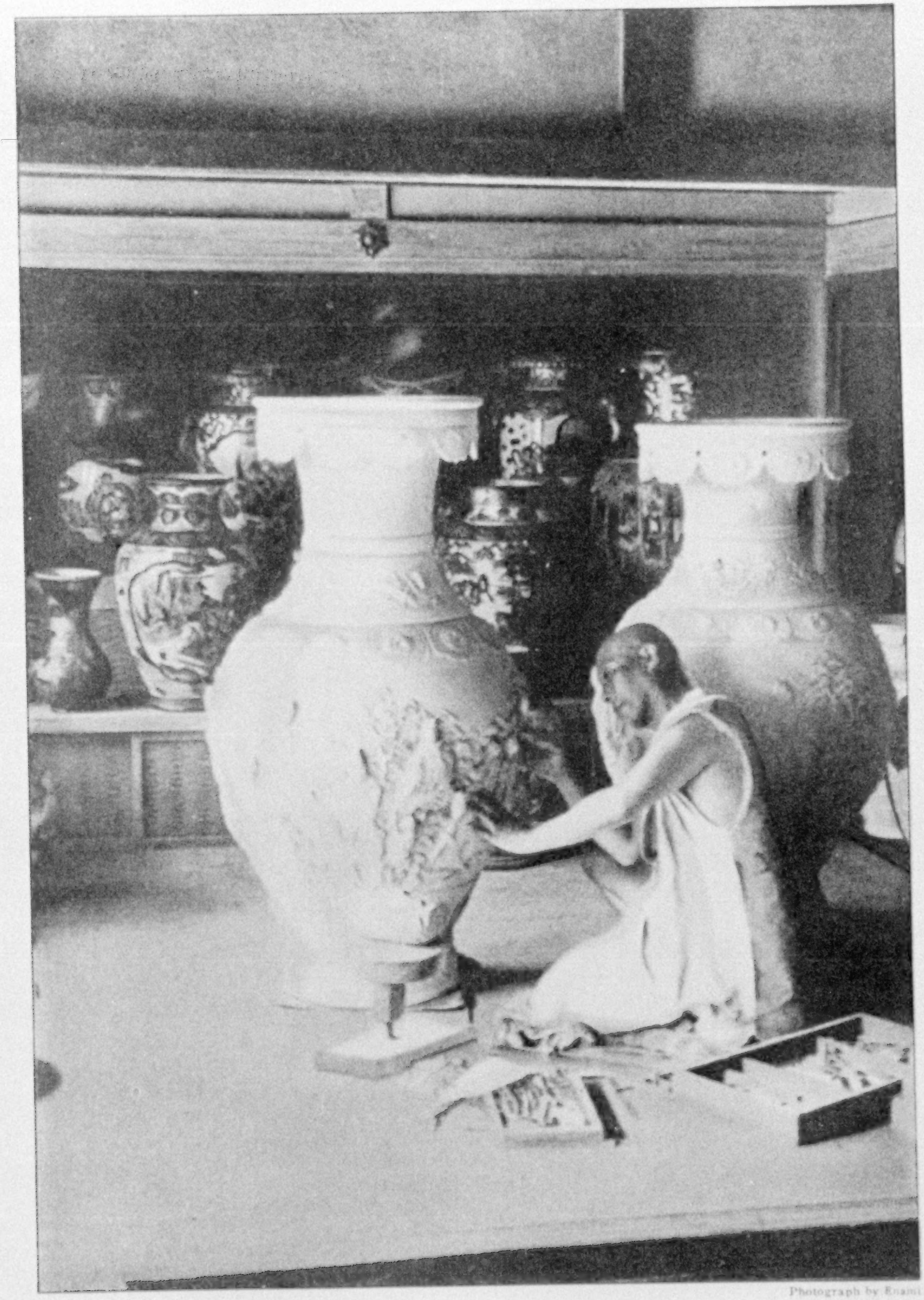
A JAPANESE LADY AND HER PALANQUIN BEARERS

Long before an American missionary devised the jinrikisha as a vehicle for his invalid wife, the wealthy Japanese traveled in palanquins, the oldest style of carriage in Nippon. The Japanese attribute the invention of the jinrikisha, or kuruma as they call it, to an elderly paralytic gentleman who lived in Kyoto fifty years ago.

Photograph by Kiyoshi Sakamoto

A PRIEST-DOCTOR OF OLD JAPAN

Living in isolated huts "beyond the influences of the miserable world," these religious mendicants, who are vegetarians and celibates, come to town and make their way from gate to gate, praying in sing-song fashion for gifts of money or rice in exchange for blessings for the sick.



Photograph by Enami

A CERAMICS CRAFTSMAN

While quantity production has cheapened the quality of the output in many of Japan's famous porcelain centers, there still remain artists capable of producing the finest examples of an ancient handicraft. America is the most discriminating market for Japanese cloisonné ware.



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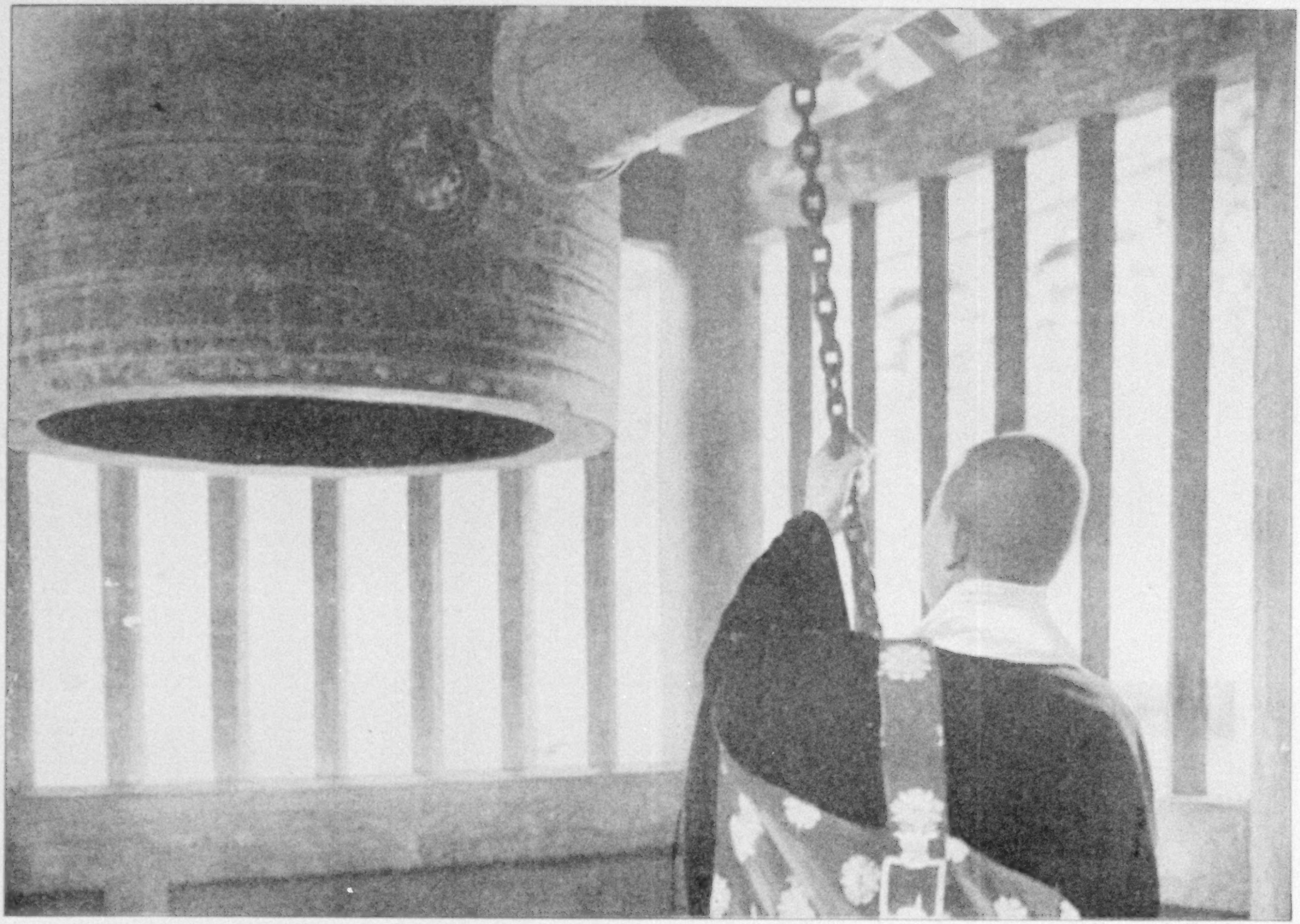

Photograph by Kiyoshi Sakamoto

"FOR THE TEMPLE BELLS ARE CALLIN'"

Instead of the familiar clapper or hammer of occidental bells, the Japanese employ a sound producer which resembles a battering-ram. Note the medallion cast in the bell, indicating the point at which it is supposed to be struck. The Buddhist priest is announcing the hour of service.

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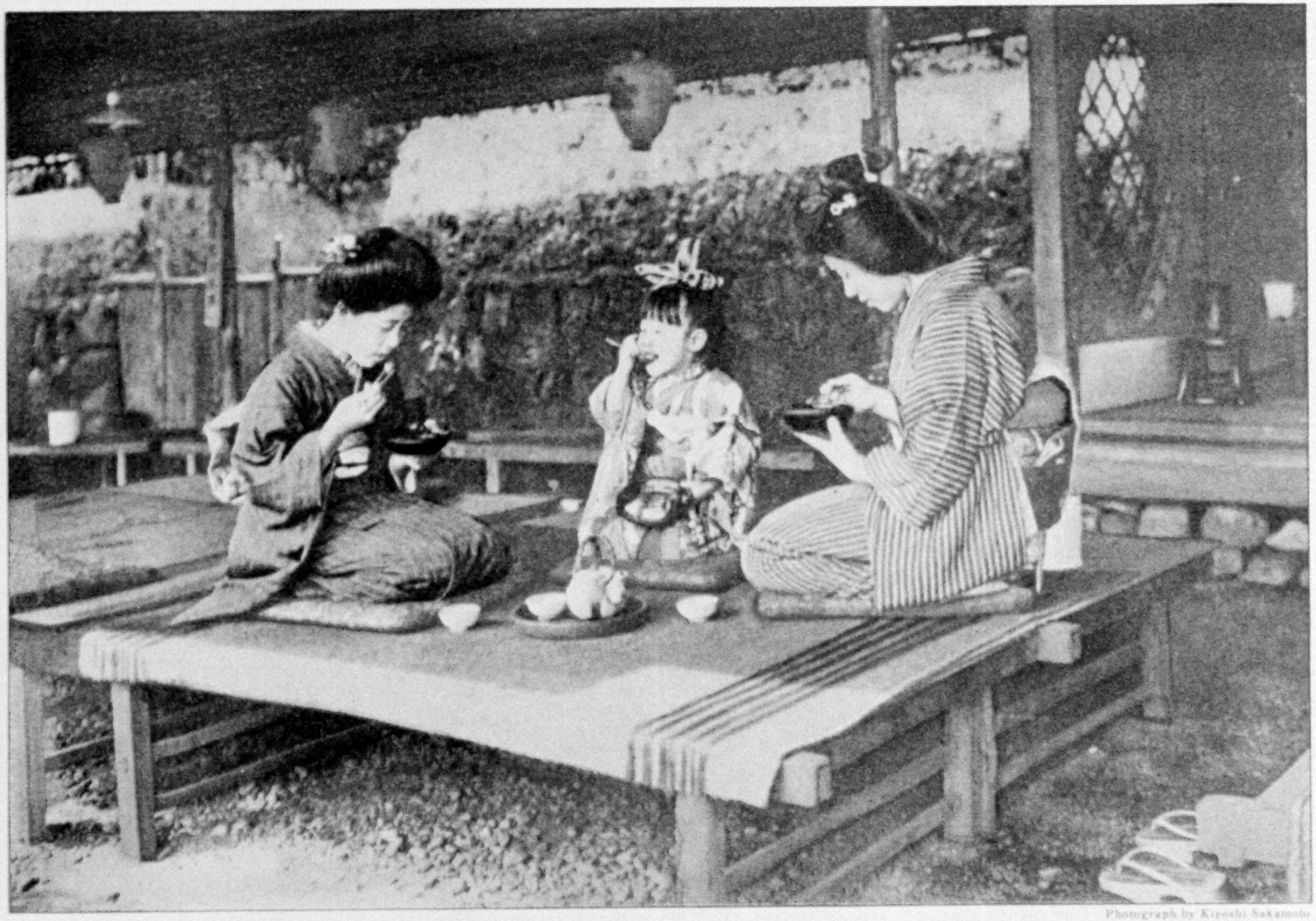

Photograph by Kiyoshi Sakamoto

THE HOUR FOR REFRESHMENTS

No matter where one may be at tea time in Japan, there is always a picturesque rest house near at hand. Few social ceremonies are observed with greater punctilio than the afternoon tea among the upper classes of the Island Empire.

Photograph by Kiyoshi Sakamoto

ON THE BANKS OF THE SARUSAWA-NI-IKE IN THE FAMOUS PARK OF NARA, AN ANCIENT CAPITAL OF JAPAN

This pleasure ground, known as Nara-Koen, is the largest park in Japan and is rich in classical memories. On the banks of its bijou lake, in which the carp are so plentiful that it is called "half water and half fish," is a shrine dedicated to a court lady of old who drowned herself after discovering that she no longer enjoyed the favor of her sovereign.

Of the 200 volcanoes of Japan, some fifty are more or less active. Their forms are most varied, some exhibiting a cluster of lofty, sword-like peaks or serrated ramparts converging to a common center like the spokes of a gigantic wheel.

Of the beautiful cone-shaped peaks, the unique example is, of course, the famous Fuji-san (Fuji-yama), the "Matchless Mountain." Its snow-clad form, rising in one majestic sweep from the Pacific shore to a height of 12,400 feet, is revered, admired, and loved by millions of toilers in busy cities and on wide-spread countrysides.

Its influence on the imagination is expressed in the art and the religious aspirations of the nation in every conceivable form. Its summit is sought by thousands of white-robed pilgrims every summer, who, during the two months of the climbing season, toil to the topmost of its many sacred shrines for adoration and prayer.

On one occasion I asked of the venerable leader of one of these bands of climbers the significance of the white garments. "We wear them," he said, "in token of the purity of thought and action which we desire and without which the mountain divinity will not listen to our prayers." Indeed, his reply was almost a quotation from familiar Hebrew poetry we know: "Who shall ascend into the Hill of the Lord, and who shall rise up in His Holy Place? Even he that hath clean hands and a pure heart."

### JAPANESE REGARD OBJECTS OF NATURE WITH FEAR AND LOVE

It is, however, in the great Alpine ranges of central Japan that the influence of Nature upon man is most marked and most far-reaching. A day's journey from the many modernizing influences of the twentieth-century civilization of the capital constitutes a leap from the present day to a world of a thousand years ago.

Until we grasp this fact we can have only a very partial and misleading conception of the mental attitude of the majority of the Japanese people toward their physical surroundings. The reverence, admiration, and fear with which, as I have already pointed out, they regard the most striking objects of Nature are most forcefully expressed in their views regarding the great mountains.

But it is when we penetrate into the secluded fastnesses of the wild Alpine regions beyond, where scores of splendid peaks attain a height of nearly 10,000 feet or over, that the feelings inspired indicate a different mood. There fear is apt to replace love. Some personal experiences will perhaps best serve to illustrate my meaning.

### WASPS AS SPIRITS OF VENGEANCE

I was one day returning from the first ascent of the greatest granite peak in the northern Japanese Alps, when my hunter-guide and I were suddenly attacked and badly stung by a number of wasps on whose nest my companion, in the darkness of the forest, had unwittingly trodden.

Later on that evening, as I stood at the camp-fire, drying sodden clothes, a Japanese traveler approached with the inquiry, "Where did the wasps sting your honorable body?"

On my replying, he proceeded to squat down behind me by the camp-fire and make a series of mesmeric passes over my person. He then rose, took his stand in the doorway toward the now moonlit form of the mountain towering above, and, after clapping his hands, for a while he bowed his head in silent prayer to the Mountain God.

He then approached me with the explanation that what I had thought—and felt—to be wasps were really the embodied spirits of vengeance, sent by that divinity to punish an impious intruder who had ventured to desecrate the sacred summit with an alien hoof. He, however, possessing the power of exorcism, was able to remove the evil by its exercise.

On a later occasion I was making the ascent of the pinnacle of Hō-wō-zan, another virgin peak, in the southern Japanese Alps, when my hunters stalked a fine chamois in an adjoining ravine. Meeting me later on, and carrying the carcass with them, they suddenly laid it down, scarcely lifeless, at my feet and proceeded to cut it up. The choicest portion of its interior they then respectfully offered to me to partake of, raw and

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Photograph from Walter Weston

THE SUMMIT SHRINE OF TATEYAMA, IN THE NORTH JAPANESE ALPS

The shrine is merely a small wooden hut, but every year, from July 20 to September 10, pilgrims flock to it. Nowhere else in Japan can the traveler obtain so extensive a sweep of mountain scenery.

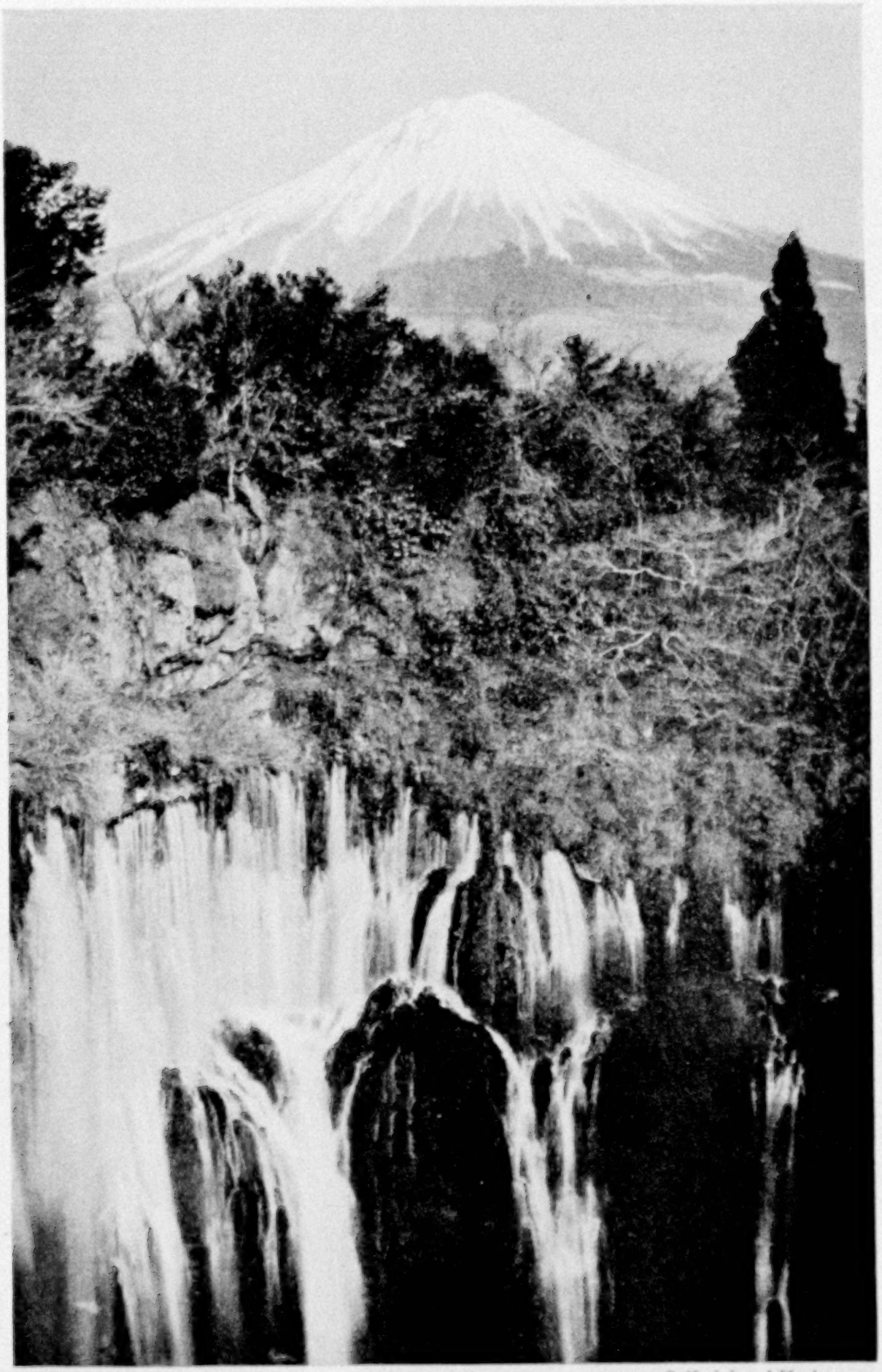
Photograph from Walter Weston

THE HIGHEST ACTIVE VOLCANO IN JAPAN, YAKE-DAKE

Yake-dake has a more famous twin, Asama-yama, near the summer resort of Karuizawa, with which apparently there is a subterranean connection. When one is active the other is resting for its own turn, which comes with mathematical regularity. The two active volcanoes are about fifty miles apart.

THE KEGON FALLS AT NIKKO, ONE OF THE CHIEF RELIGIOUS CENTERS OF JAPAN

The slender ribbon of water is the outlet for Lake Chuzenji, falling 350 feet into a rocky basin. Near the basin myriad minor cascades form a lovely setting.



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MT. FUJI AND SHIRAITO-NO-TAKI ("WHITE-STRING WATERFALLS")

"The popular description of this lovely cataract is that the two larger and the 39 smaller falls composing it are the parents and the children of a family of 41 members."

Photograph by Kiyoshi Sakamoto

AMA-NO-HASHIDATE ("HEAVEN'S BRIDGE"), ON A SNOWY MORNING, ONE OF THE "THREE FAMOUS SIGHTS" OF JAPAN

The principal feature of this superb landscape is a pine grove on a sand-bar two miles long and 200 feet wide. Ama-no-hashidate is reached by rail, 91 miles from Osaka.

smoking, with the assurance that I should thereby acquire those attributes of the chamois most desirable in a climber—nimbleness, strength, and mountaineering skill.*

They subsequently begged me, as I had been fortunate enough to make the first ascent of the mountain, to build on the summit a shrine in honor of the Mountain God, and myself to become its first guardian priest. It always appealed to me as the strangest offer of preferment and the most singular proposal for church-building that I ever received.

A frequent cause of delay or ill-success in exploring unfamiliar peaks in these regions has been the inability to obtain the help of the hunters, who alone know the best approaches. A careful inquiry usually led to the discovery either that the men were afraid to bring an alien on the sacred mountain, lest the mountain spirits should in angry retaliation destroy their crops, or that they were absent, engaged in the rite of *Amagoi*, a service of supplication in time of drought.

This service usually consisted of lighting bonfires and discharging guns to draw the attention of the god to the fire in order that he might extinguish it by sending the needed downpour of rain.

But it is on Fuji-san itself that some of the strangest of such experiences have fallen to my lot.

### CLIMBING SNOW-CLAD FUJI

Many years ago, with two Cambridge friends, then visiting Japan, I climbed the sacred mountain, snow-clad in early spring. We had been warned by the village priests and policemen that the anger of the Goddess at such an untimely intrusion (for she was not "at home" to visitors except in the depth of summertime) would surely make itself felt.

As an actual fact, we had advanced only a short distance when the weather changed, a typhoon burst upon us, and we were imprisoned for three days in our bivouac half-way up the mountain. However, after the storm came sunshine and with it a successful climb, which did not bring us back to our village friends again. Their kindly solicitude, however, soon rendered us the objects of public concern, and the "foreign" newspapers forthwith honored us with the following obituary notice, translated from a well-known Japanese journal (the *Hochi Shimbun*):

"The foreigners who started to ascend Fuji with two coolies have not since been heard of. The mountain is still covered with snow, and as the summit was hidden in clouds, the visitors were urged to postpone the attempt. But these foreigners were determined to go. A few hours afterwards the storm burst, dislodging huge boulders and house roofs.

"As nothing has since been heard of them, it is feared they have succumbed to the fury of the gale. Even had they taken shelter, cold and starvation must long since have rendered them helpless. Their nationality is unknown, but we surmise that they are British, for the reason that the people of that nation like to do that which is distasteful to them and glory in their vigor!"

### TENTH CENTURY MEETS TWENTIETH ON FUJI'S SUMMIT

There is one outstanding feature of this beautiful and sacred mountain that differentiates it from any other known; for there the unromantic realism and materialism of the twentieth century stretches out its hand across a thousand years and draws the tenth century to its side with all its old-world dreams and communings.

Almost at the very door of the most sacred shrine on this holy peak the post-office banner flutters in the breeze to beckon the tired but triumphant pilgrim to dispatch to the four corners of Japan the picture postcard that shall announce his successful toil.

And as at early dawn you turn from a surprised contemplation of the most up-to-date installation of modern meteorology on the crater's edge, your astonished eyes are arrested and held with reverent interest by the sight of the shivering limbs and the adoring gaze of some aged pilgrim, whose white-clothed form enshrines the flowing devotion of a primeval worship paid in all sincerity to the splendors of the "Rising Sun."

*For an account of a similar superstition among primitive Koreans, see "Exploring Unknown Corners of the Hermit Kingdom," in THE GEOGRAPHIC for July, 1914.

MT. FUJI, IN THE RÔLE OF NARCISSUS, VIEWS ITS OWN SUBLIMITY IN THE MIRROR OF LAKE SHOJI

Fuji-san, "The Matchless Mountain," is loved by millions of toilers in busy cities and on widespread countrysides (see text, page 77).

# THE NATIONAL GEOGRAPHIC SOCIETY COMPLETES ITS GIFTS OF BIG TREES

THE trustees and officers of the National Geographic Society are deeply gratified to announce to members that The Society has been continuing its effort, begun in 1916, to preserve the Big Trees of Sequoia National Park.

By a final purchase in April, 1921, of 640 acres of land in Sequoia National Park, these famous trees, oldest and most massive among all living things, the only ones of their kind in the world, have been saved; they will not be cut down and converted into lumber.

Were a monument of human erection to be destroyed, it might be replaced; but had these aborigines of American forests been felled, they would have disappeared forever. The Big Trees could no more be restored than could those other survivals of indigenous American life, the red man and the buffalo, should they become extinct.

### FIRST PURCHASE MADE IN 1916

Members of the National Geographic Society will recall that, in 1916, Congress had appropriated $50,000 for the purchase of certain private holdings in Sequoia National Park, but the owners declined to sell for less than $70,000. In that emergency the National Geographic Society took the first step toward saving the Big Trees by subscribing the remaining $20,000.* Thus 667 acres were purchased. The Society's equity in them was conveyed to the government, and this tract became the property, for all time, of the American people.

In 1920, inspired by the first benefaction, three members of The Society gave The Society sums equivalent to the purchase price of $21,330, necessary to acquire three more tracts, aggregating 609 acres. Thus the original area of Sequoias saved from destruction was almost doubled.

At the request of the donors, this area was presented to the government by the National Geographic Society in June, 1920. This gift was made possible by the generosity of Stephen T. Mather, Director of National Park Service, who personally contributed $13,130; by D. E. Skinner, of Seattle, who contributed $5,000; and by Louis Titus, of Washington, D. C., who contributed $3,200.

*See "Our Big Trees Saved," in the NATIONAL GEOGRAPHIC MAGAZINE for January, 1917.

### ONE HOLDING REMAINED IN PRIVATE HANDS

There still remained one other important private holding in Sequoia National Park amounting to 640 acres. Through this tract, which is covered by a splendid stand of giant sugar-pine and fir, runs the road to Giant Forest.

To acquire this approach to the unique forest and to eliminate the last of the private holdings in this natural temple, the National Geographic Society and friends of The Society, in 1921, contributed $55,000, with which the tract was purchased. On April 20, 1921, it was formally tendered in the name of The Society, through Secretary of the Interior Albert B. Fall, to the American people.

This sum of $55,000 includes $10,000 from the tax fund of Tulare County, California, within which the Sequoia National Park is situated, a practical evidence that the people closest to the park are alive to the importance of our government owning the land.

The contributors and the amounts contributed were:

| | |
|---|---|
| Research Fund of the National Geographic Society | $5,000 |
| W. F. Chandler, Fresno, California | 6,000 |
| George Eastman, Rochester, New York | 15,000 |
| William Kent, Kentfield, California | 250 |
| Stephen T. Mather, Director National Park Service | 14,000 |
| Charles W. Merrill, Berkeley, California | 250 |
| James K. Moffitt, San Francisco | 500 |
| John Barton Payne, former Secretary of Interior | 2,000 |
| Julius Rosenwald, Chicago, Illinois | 1,000 |
| Rudolph Spreckels, San Francisco | 1,000 |
| Special Tax Levy of Tulare County, California | 10,000 |
| | $55,000 |

Thus the National Geographic Society has conveyed to the United States Government a total acreage in Sequoia National Park of 1,916 acres, purchased at a total cost of $96,330.

### EVERY MEMBER HAS A PART IN GIFT

It should be noted that the gifts were not solicited by The Society. The National Geographic Society asks its membership for no contributions of any sort. Its publications and its scientific and educational activities are entirely supported by their dues.

Every member of The Society may feel that he had a part in this enduring gift to his country and to posterity, for the funds appropriated directly by The Society for the purchase of the Sequoias came from the fraction of the dues of members set aside for such benefactions.

The tender was made in the name of the National Geographic Society because, as the Director of the National Park Service, Mr. Mather, put it: "It is only proper that this gift should come to the government through the National Geographic Society, in view of the keen interest which The Society has taken in the purchase of the other private holdings in this park. It was through direct gifts by your Society that we were able to save the Giant Forest, which contains the finest stand of *Sequoia Washingtoniana* in the Sierra."

### SECRETARY FALL ACKNOWLEDGES GIFT

Following the presentation, Albert B. Fall, Secretary of the Interior, wrote to Gilbert Grosvenor, President of the National Geographic Society:

DEAR MR. GROSVENOR:

It was a very pleasant surprise when you called on me on April 20 and, on behalf of the National Geographic Society, presented the title deeds and other pertinent papers conveying to the United States the so-called Martin tract of 640 acres in the Sequoia National Park, recently purchased at a cost of $55,000 by your Society, through the generosity of its members, in order that this area with its fine stand of trees might be preserved for the American people.

I have already personally expressed to you my sincere thanks and my acceptance of the proffered gift. Your Society on several preceding occasions has stepped in at a crucial moment and acquired several similar areas in this same park, thereby saving from extermination other wonderful trees that would otherwise have fallen under the axe.

Your Society is to be highly commended on its substantial expression of a high public spirit, and on behalf of the United States I again want to express to you, and through you to the contributors, my deepest appreciation of your generous and considerate action.

Respectfully,

ALBERT B. FALL.

Mr. Gilbert Grosvenor,
President, National Geographic Society,
Washington, D. C.

To mankind, throughout the ages, trees have been the most human-like, the most companionable, of all inanimate things. Aristotle thought they must have perceptions and passions. An infinitely more scientific generation still is sensible to their mystical power.

More and more will Americans visit Sequoia National Park to gaze upon the majesty of "Nature's forest masterpieces" in their last stand. National Geographic Society members may well be proud that they had a part in preserving for all time these mementoes of a past far beyond the records of written history.

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### INDEX FOR JANUARY–JUNE, 1921, VOLUME READY

**Index for Volume XXXIX (January–June, 1921) will be mailed to members upon request.**

# ADVENTURES WITH A CAMERA IN MANY LANDS

By Maynard Owen Williams

Author of "Russia's Orphan Races," "The Descendants of Confucius," "Syria, the Land Link of History's Chain," and "Czechoslovakia, Key-land to Central Europe"

*With Illustrations from Photographs by the Author*

*The author of the following article has recently returned to America after a year's tour of Europe and Asia as a staff observer for the* National Geographic Magazine. *In addition to the countries of western and central Europe, Mr. Williams visited Egypt, Palestine, Ceylon, southern, central, and northern India, Baluchistan, and Burma.*

THE snap-shot photograph is the magic carpet which adds a fairy-tale touch to a routine world. It satisfies man's desire to extend his horizon, to reach out into the unknown, and to identify himself a little more closely with the world of which he is a part.

Photographing the common people of foreign lands is a fascinating pastime. No fisher is forced to use more patience than the man who seeks through photography to show the folks at home how the other half of the world actually lives. No hunter can boast of so satisfactory a bag as falls to him who hunts with the clairvoyant eye of the camera. The focusing knob of a graflex is a more thrilling bit of mechanism than the trigger of a rifle.

### THE PHOTOGRAPH IS A BASIS FOR FRIENDLY UNDERSTANDING

But photographing the world is not frivolous, nor is it merely good sport. If people and places are worth writing about, they are worth picturing. Such work is a step in the visualizing of our distant neighbors and the introduction of strangers to those who know no more about them than the camera tells. All the world is watching how the rest of the world lives.

It is habitual to speak of "the mask-like features of the Chinese." Unquestionably, when a Chinese wishes to conceal his emotions, the Sphinx looks vivacious in comparison, but when a casual observer insists that the people of China never smile or laugh, a few photographs reveal such an error of generalization.

The Chinese is unusually clever in disguising his feelings when he wants to disguise them; but a frank show of friendship and a readiness to smile in spite of toil, cold, or hunger are among the most prominent of Chinese characteristics (see pages 80 and 90).

When members of a family are separated, they exchange photographs. The same method is applicable to the building up of international relations. Photography, with all its faults, is a social art. It furnishes a basis for friendly understanding.

About once a year we of the Occident hear of little glass or metal bracelets, such as the girl babies of India wear, being found in the stomachs of slaughtered crocodiles. At times I wish that some one would vary the tale by making the reclaimed property a shirt-stud or a collar-button. But when the camera is called in to report on the inhumanity of distant and little-understood peoples it is quite as likely to reveal proud mothers in India as in Indianapolis.

The camera enthusiast often has the same sort of an alibi as the fisherman. The ones that get away are always the best. Nor is this unnatural. Taking pictures requires concentration, and such diversion as a charming subject offers may drive all thought of formulæ from the amateur photographer's head.

### A QUEEN OF THE HOLY LAND

Coming up through Palestine some years ago I was traveling with an enthusiast who had read somewhere that the



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A PRIEST OF PU-TO SEES HOW IT WORKS

The lovely island of Pu-to, or Pootoo, one of the Chusan group, is one of the three most famous sites of Chinese Buddhism. Two thousand or more monks live here. At first they resented being photographed, but after looking through the camera themselves they were delighted to pose for the camera man.

"THE FACE WITH THE SMILE WINS"

A young bread-seller on a small steamer running between Ningpo and the sacred island of Pu-to (see illustration on the opposite page). "A frank show of friendship and a readiness to smile, in spite of toil, cold, or hunger, are among the most prominent of Chinese characteristics" (see page 87). Chinese bread is usually in a form which can be baked quickly and with the minimum of fuel. Poppy and sesame seeds are often used to decorate and flavor the hard loaves. Millions of Chinese do not know the taste of rice, as it grows only in well-watered tracts and the cost of transportation in a country that lacks railways makes the price of the grain prohibitive in the dry areas in the northern provinces. Poor as the Chinese are, one is seldom far from some vendor of food, whether it be bread, roast chicken or duck, or watermelon seeds, which take the place of peanuts as a Chinese luxury.

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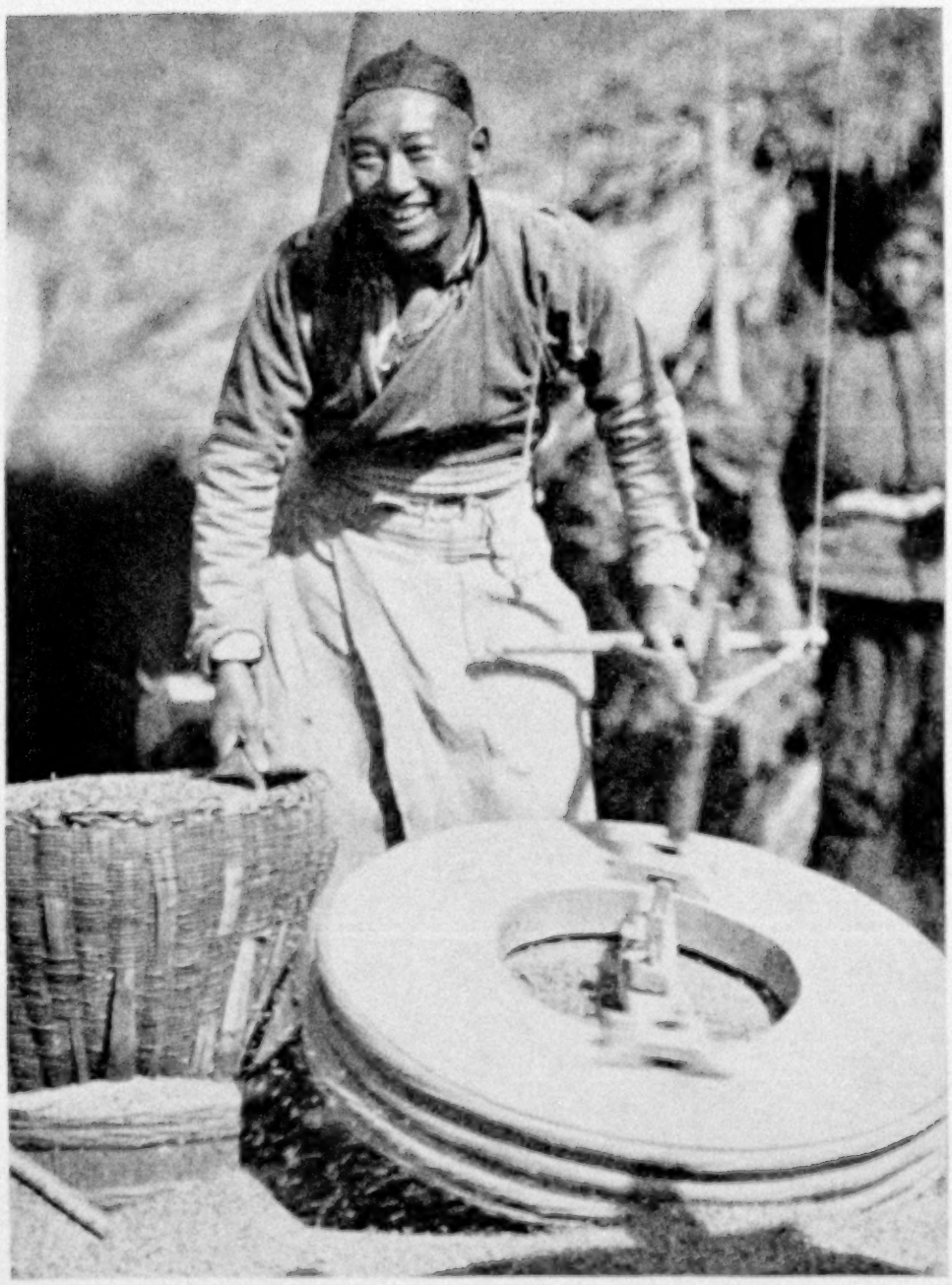


MAKING A HOLIDAY OF RICE-HULLING

The ability of the Chinese to work long hours with little food is well known, but no less remarkable is their ability to smile from morning to night, in spite of troubles which would worry less philosophical souls. Although this Chinese worker has looked up from his task to register a smile, he has not lost one revolution of his rice-huller. The lower wheel is fixed and the upper, mounted on a rude wooden axle, is turned by a raised rod. Two small ropes suspended from a joist above the wooden "millstones" help to steady the crank.

habit of carrying heavy jars of water on their heads gave to the women of the Holy Land a queenly carriage. At one of the roadside springs we halted, and after he had looked over a score or so of water-girl candidates for queenly honors, he was the most disappointed man imaginable. Then the cry of "All aboard!" rang out and the party was about to continue the ride to Samaria.

Around a curve of the road there glided a young woman who fitted perfectly the mental picture of my friend. Her raven hair was neatly parted on as fair a forehead as ever carried jet black brows above soft brown eyes. Her oval face was satiny olive, with a flush of red in the cheeks; her teeth were pearls; her nose was finely molded; but the memorable feature was that she really had the form and carriage of an uncrowned queen.

My companion made a grab for his camera, commandeered my slight knowledge of Arabic, and started off in the direction of his vision in a way that would have frightened a less capable woman. She consented to let us snap our cameras at her, and we dashed back to the carriage. A mile farther on, my friend gave a cry of chagrin. He had forgotten to withdraw the dark slide from his camera. I had not shared his enthusiasm to such a disastrous extent, with the result that a picture of our fair model appeared in THE GEOGRAPHIC several months ago.

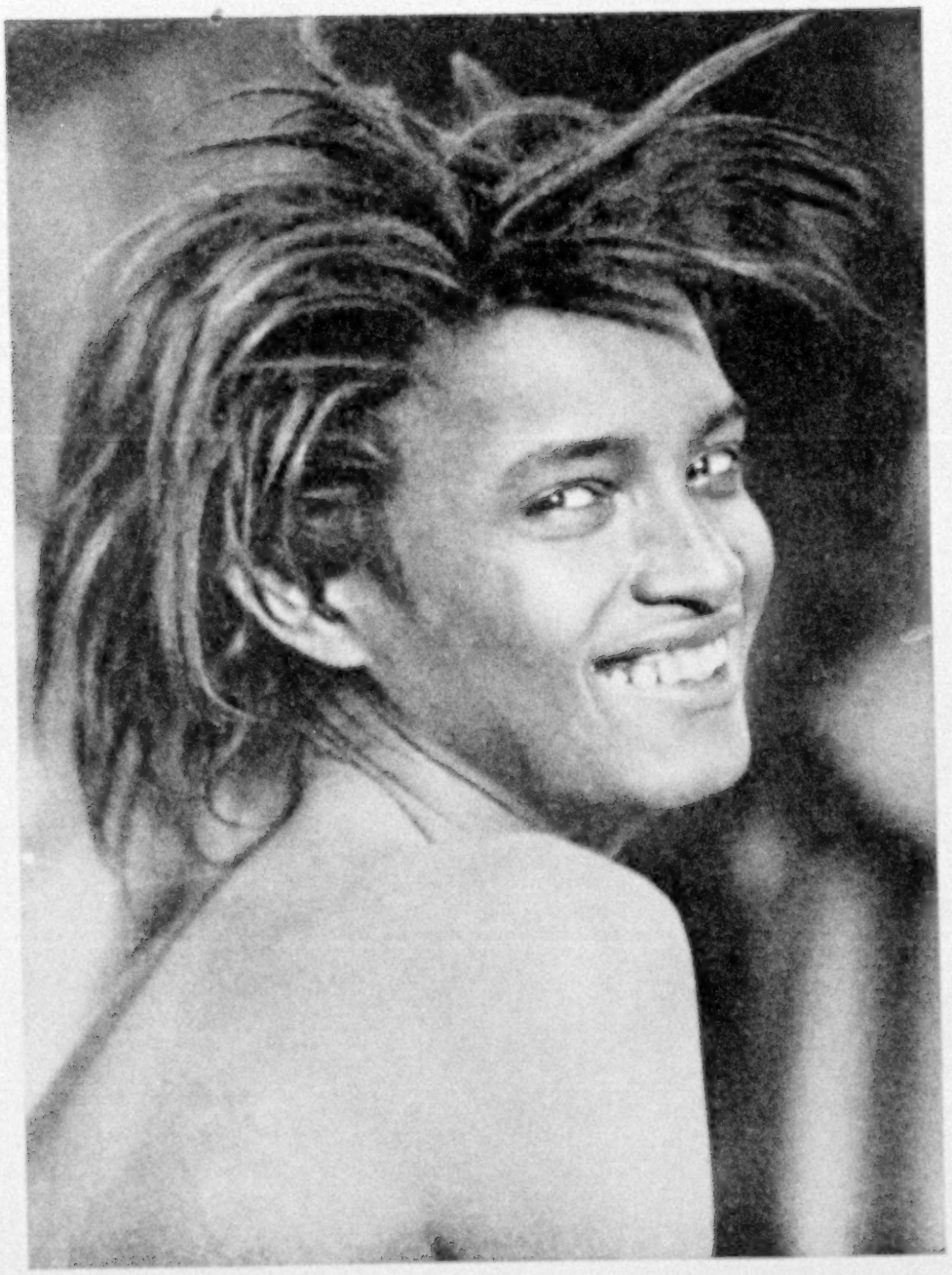
One of the vexing problems for the photographer is the matter of tips ("backsheesh"). My own rule is never to offer or give tips to those who let me take their photographs unless they are professional beggars, hardened in their vice. The tourist centers of the world have been spoiled by those who have distributed extravagant largesse in return for photographic rights. One can be given privileges that he cannot buy.

You can't ride a high horse or a motor car and get familiar close-ups of common folks. The people of the East are suspicious of those camera hunters who stalk their game from the cushions of an automobile.

### CAMERA HUNTING IN BALUCHISTAN

From Quetta to Sibi, in Baluchistan, I rode on the cowcatcher of a locomotive over one of the weirdest scenic routes in the world. A luxurious seat, upholstered in leather, had been placed on the front of the engine for my use, and the station masters whom I encountered were not sure but what I owned the line.

At one station I noticed a charming little girl, wearing a lemon-colored scarf with that grace which western women seldom attain, because their drapery is arranged by their dressmakers and not by themselves. But that lovely Hindu child up there in the bleak regions of Baluchistan was afraid of the black box and its Polyphemus eye.



A RELIGIOUS NOVICE IN A FRIENDLY MOOD

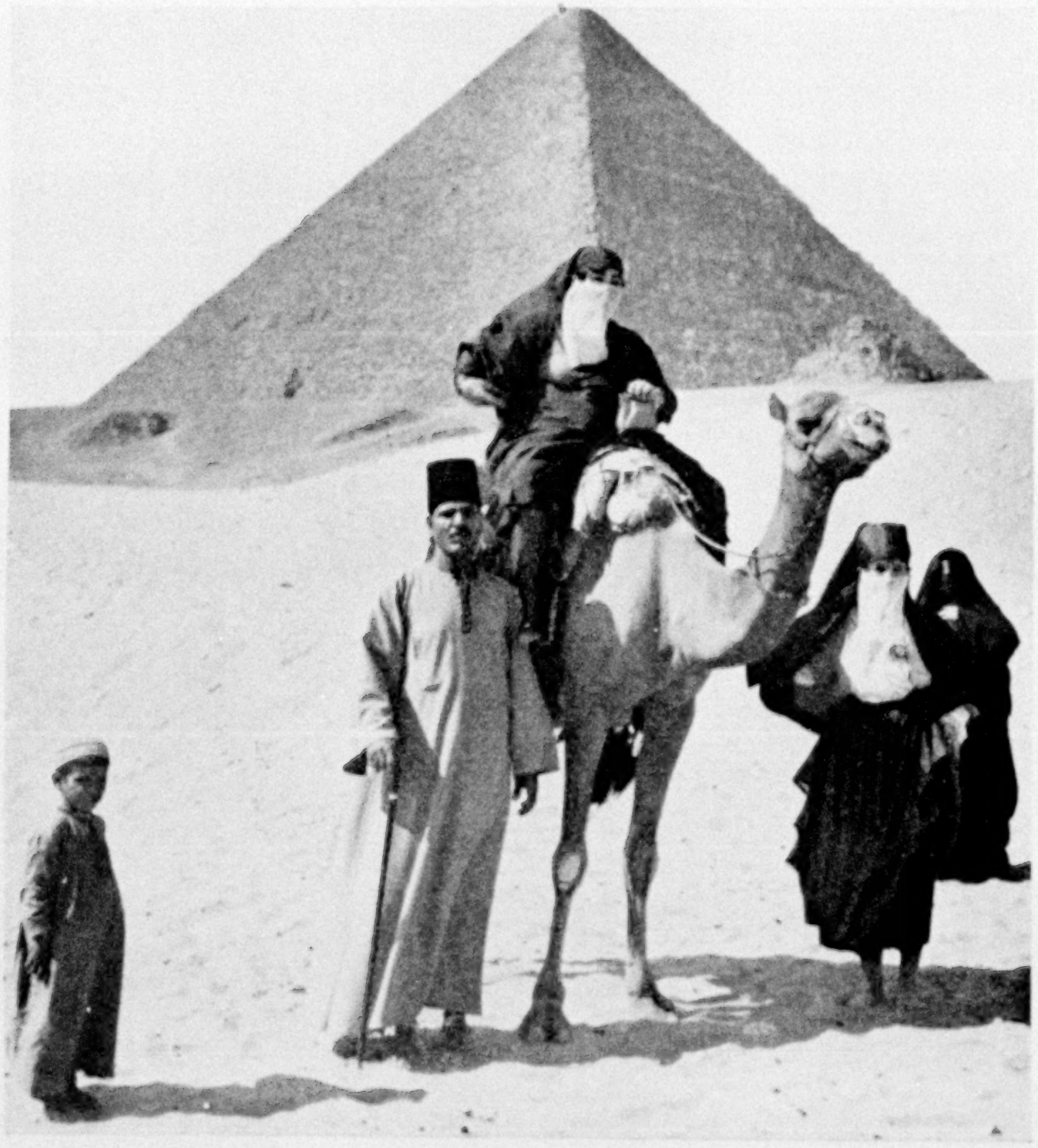
Under the shade of a tree in the Rawalpindi bazaar, this young Hindu neophyte turned from the silent contemplation of his naked leader, smeared with ashes, to smile into the camera (see p. 97).

The station master knew that if I had a private lounge attached to the engine I must be a Lieutenant-Governor or a General at least, and he feared that if his daughter balked he might be subjected to censure. He explained and pleaded, but in vain. He even dragged her toward the camera.

### BUYING A SMILE WITH A TIN BOX

Now, the first rule of the photographer should be the Golden Rule; and, in any case, I had no desire to picture that lovely child in tears. I gave her the tin container from which a reel of film had been taken. She smiled. I gave her some of the chocolate almonds which constituted my lunch. Again she smiled her thanks. She had no dislike for me personally, but she would not let me point the camera at her, for she feared that it might be loaded, even if I didn't know it.

Then I let her look in at the top and showed her the locomotive and the barren hills and the long-haired Baluchis, with their spinster curls, and the smiling face of her father. If she had been a movie queen, drawing $100 a smile and $1,000 a tear, she could not have been more



VEILED WOMEN MODELS IN A WORLD-FAMOUS STUDIO

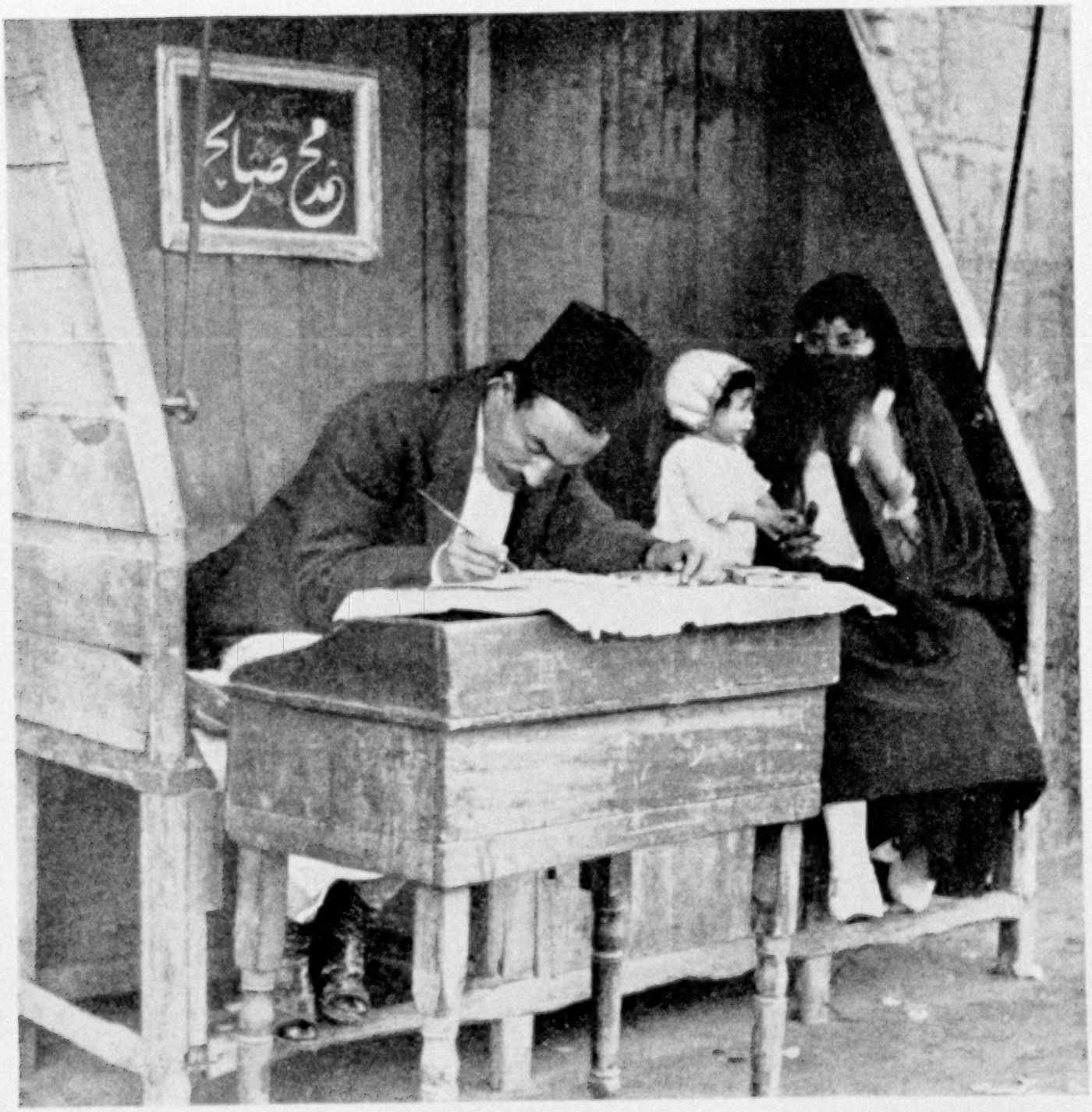
It is "the thing" for foreign visitors to have their portraits taken beside the Sphinx; but few are the veiled women who have consented to being photographed there. Women are, however, becoming more independent, even in the morning lands of history (see text, page 101).

magnanimous in letting me photograph her after that.

"I PRESS THE BUTTON; YOU DO THE REST"

Time and again I have had to show illiterate people what the mysterious black box really is. One man with whom I traveled suggested that the unwashed people who formed in line to look through my graflex would probably breathe a million different kinds of disease germs into the hood of the machine, and he pictured the possibility of my contracting pink eye, diphtheria, and other dread diseases as the result of my experiment.

But one can't get friendship without giving it, and a portrait is not a mechanical thing, but a collaboration between subject and photographer. "I press the button, but you do the rest" is one of the slogans to be kept in mind when taking



A SCRIBE OF CAIRO COMPILING THE DAY'S GOSSIP

Humbly housed in a tiny stall, which looks like the deserted home of an upright piano, the Egyptian letter-writer plies his trade. Not only all the intrigues of the mystic East are poured into his ear and flow from his fingers, but he conducts such normal business as that of which any grammar-school child would be capable.

pictures of Asiatic peoples, upon whose good will the recorder of pictorial geography must rely.

It is this cooperation with those common folks who cannot speak his language which robs many a photographer's day of loneliness and makes the picturing of foreign peoples a delight such as the lion-hunter never knows. I have never seen a smile on the face of the tiger which has fallen before the rifle of a sportsman, but I have captured many a very friendly smile with my camera.

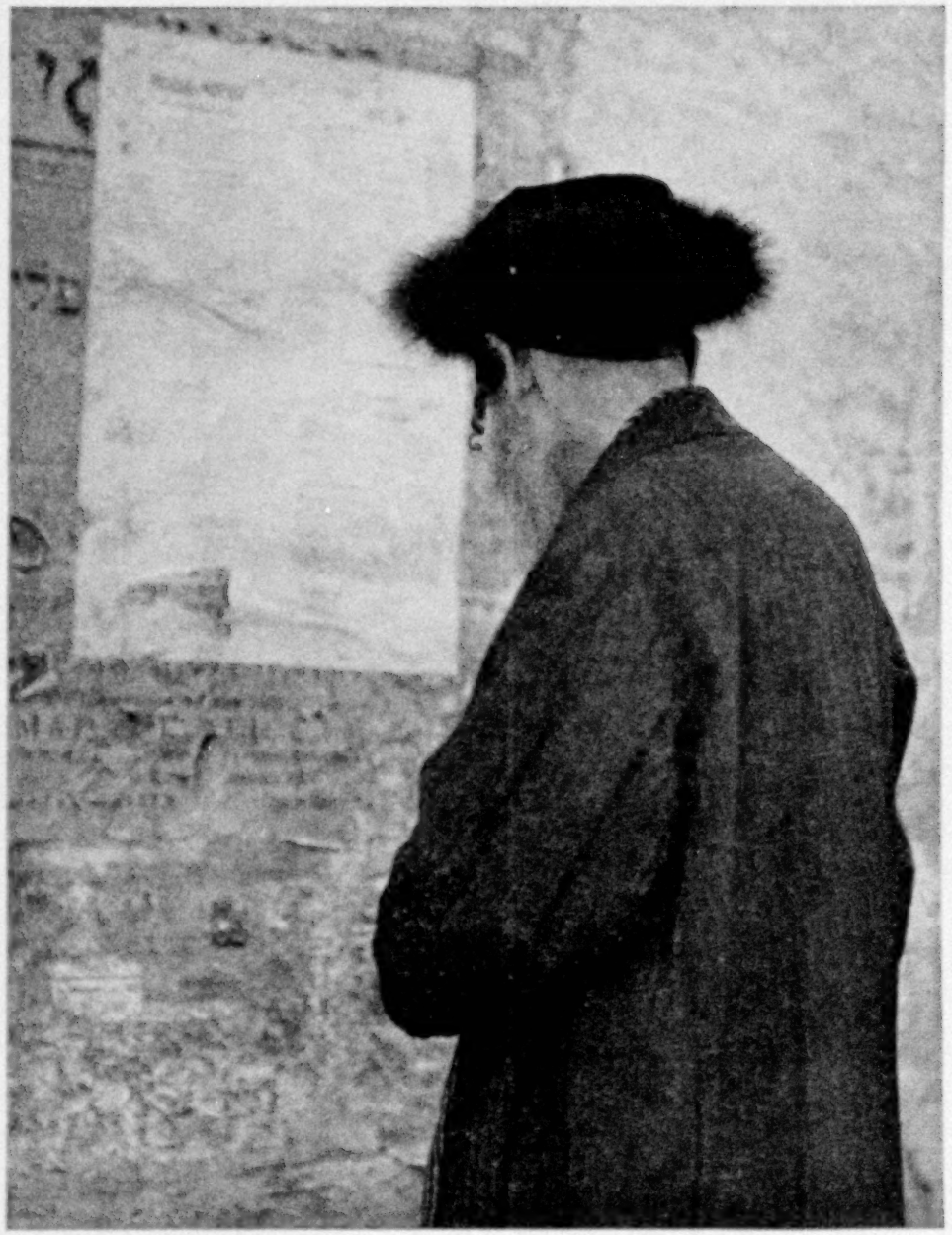
These smiles of brotherhood flashed half way around the world are the symbols of mutual confidence and understanding.

### IN THE RAWALPINDI BAZAAR

The Rawalpindi bazaar, by all the conventions of guide-book emphasis, is a place of no importance at all. In the midst of the busy street, a crude rolling-mill turned by hand transformed sugar-cane from ambrosia to nectar. Sitting on a pile of a thousand suits of cast-off

A MOSLEM WOMAN OF CAIRO WEARING THE BLACK BURKO, OR VEIL

In spite of radical changes following the war, many of the respectable women of Egypt still cling to the veil. The white gauze veil usually worn by Turkish women is often seen, but the heavy black veil and the ringed golden spool worn between the eyes are still preferred by most Egyptian women.



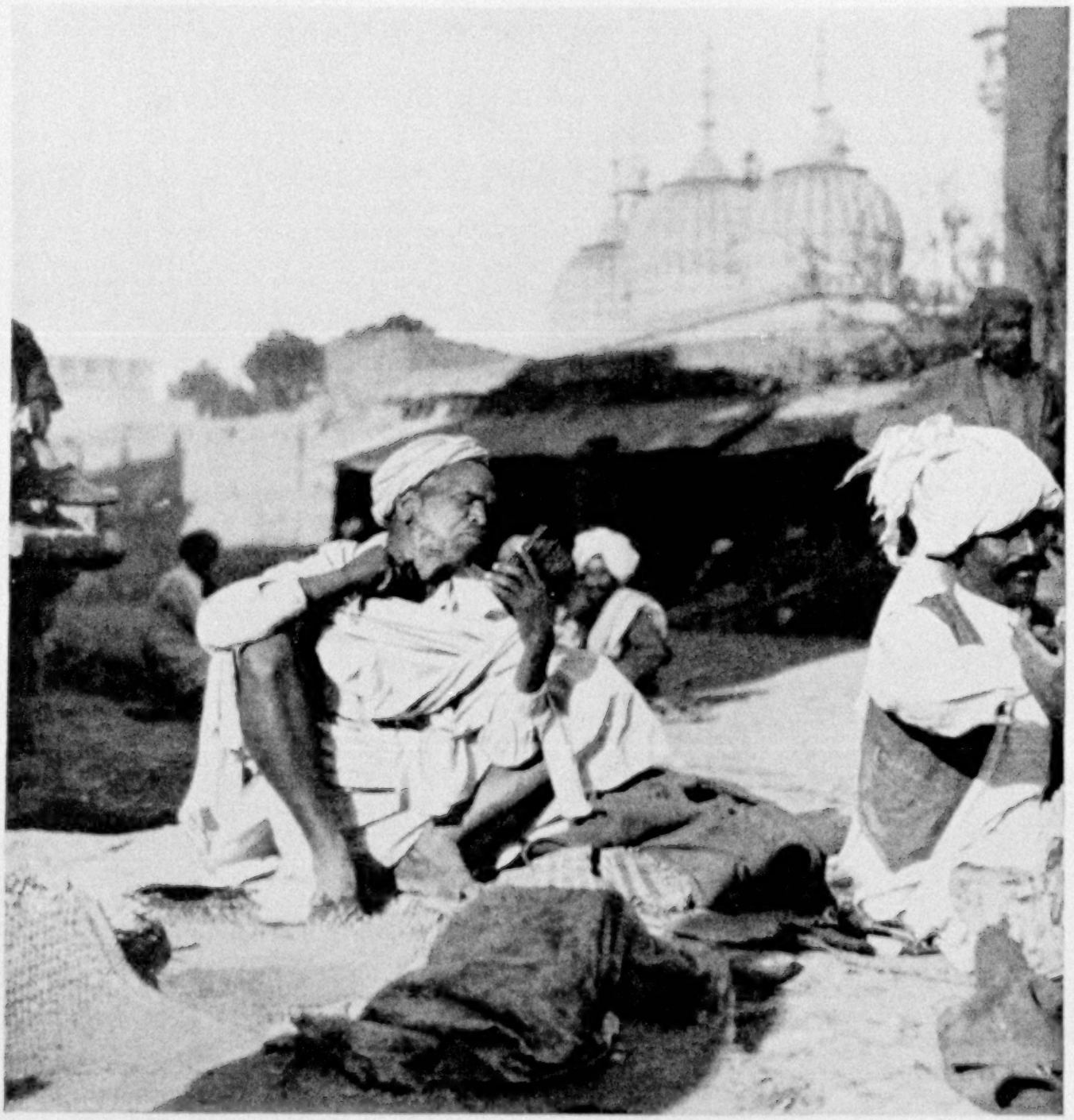
READING A PROCLAMATION UNDER THE NEW RÉGIME IN JERUSALEM

Dressed in long gaberdines and wearing plush caps edged with shiny fur, the Jewish population of Jerusalem can now read proclamations in their native tongue, send telegrams on blanks printed in Hebrew, and read Hebrew newspapers only recently born.

MAXUM

THE GATE TO ASIA ALONG A HISTORIC ROAD

Through this gorge in the Caucasus Mountain the Terek River has marked the route for countless hordes who have passed these portals on their way to or from Asia. The large flocks which go high up the mountain slopes in summer are here seen in October, making their way to the rich plains of the North Caucasus.



PRACTICING CONCENTRATION WITH THE AID OF MIRROR AND TWEEZERS

The capacity of the Indian for deep concentration has long been recognized. But a mirror and a pair of tweezers can sometimes lead to greater concentration than is usually given to the fourth dimension or the Einstein theory. In Rawalpindi, as in America, the barber is the beauty expert for masculine faces, but there are some things so important that a man prefers to do them himself. So engrossed was this individual in his toilet that he never saw the photographer.

army clothing, the city Solomon Levi figured up his losses on the last sale. Fruit venders had their luscious stock displayed in golden pyramids or ruddy cones touched here and there with bits of tinfoil light. Cattle strolled about at will, and, sitting beside the dusty road, a solemn personage gave such close attention to his chin that he neither saw my camera nor heard it click.

Under a tree whose dense shade lay like a tangible thing in the thoroughfare, two holy men sat beside a smokeless fire which cast a sheen on their naked chests, although beyond the boundary of their leafy shade the sunlight was intense. Around them sat several novices, bright-eyed lads who had not yet attained that air of detachment which characterized their leaders.

One of the novices had an enormous shock of hair, which looked like a gro-

A CORNER OF THE SMOKING-ROOM OF A MEN'S CLUB AT HAIFA

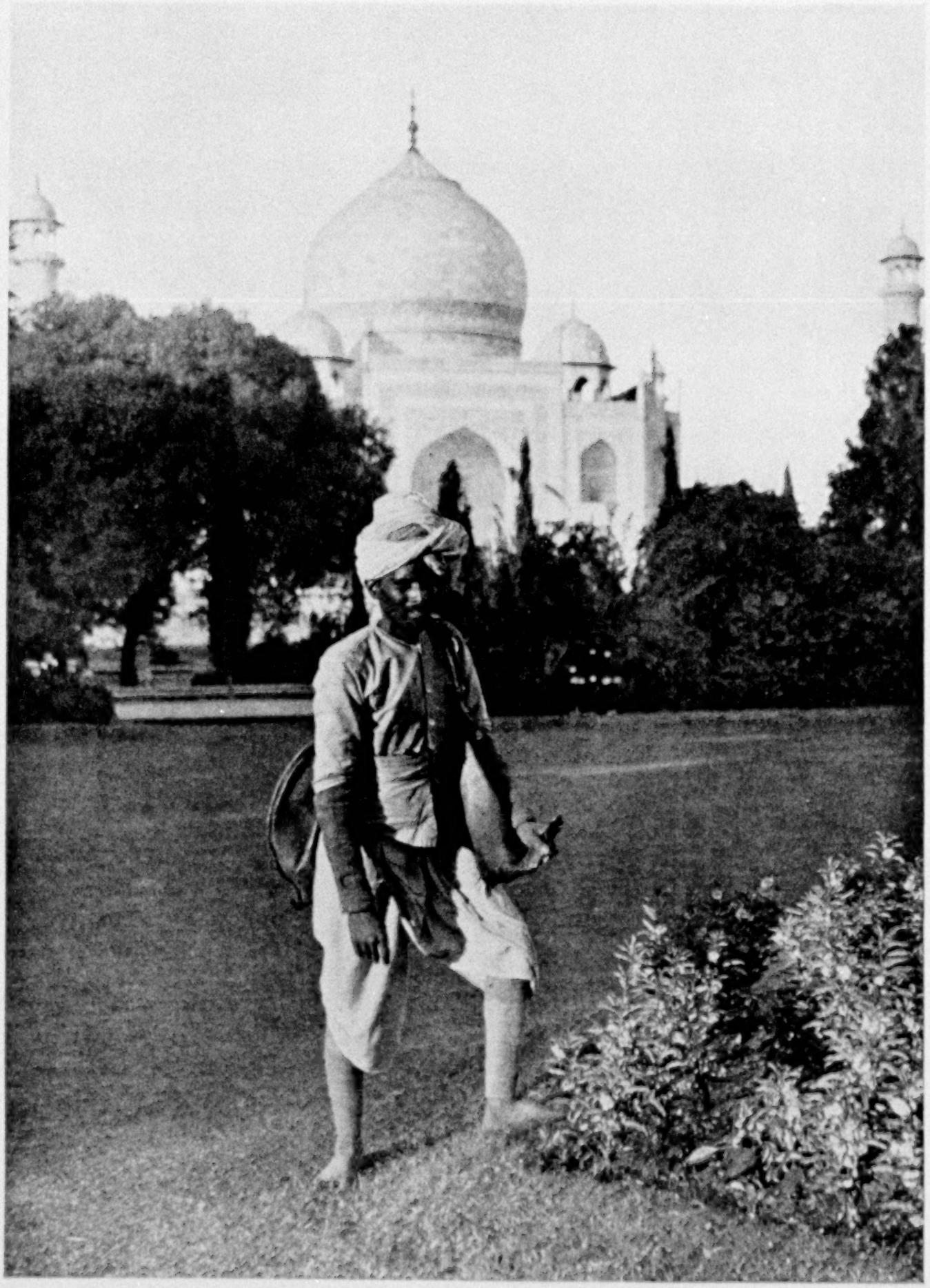
When and if Haifa becomes the main port of Palestine, more modern accommodations may be furnished the visitors in bright head-shawls who visit the port at the foot of Mount Carmel; but no modern improvements can better the Levantine open-air cafés, where thick Turkish coffee and snaky-tubed *nargilehs*, mixed with a liberal supply of gossip, serve to pass many a pleasant hour.

tesque wig. His face was most expressive. As his eyes and teeth flashed out from the dense shadow, the gamut of passions was reflected on his features.

Here was a boy whose life no one of us could understand, across whose features human emotions played with vivid force. As he smiled over his bare brown shoulder, I snapped the camera. Then he turned back to the contemplation of the smokeless fire and the naked religious leader to whom he had attached himself. I returned to the table d'hôte dinner at the English hotel. But for a moment we had smiled into each other's eyes and for a moment we had understood.

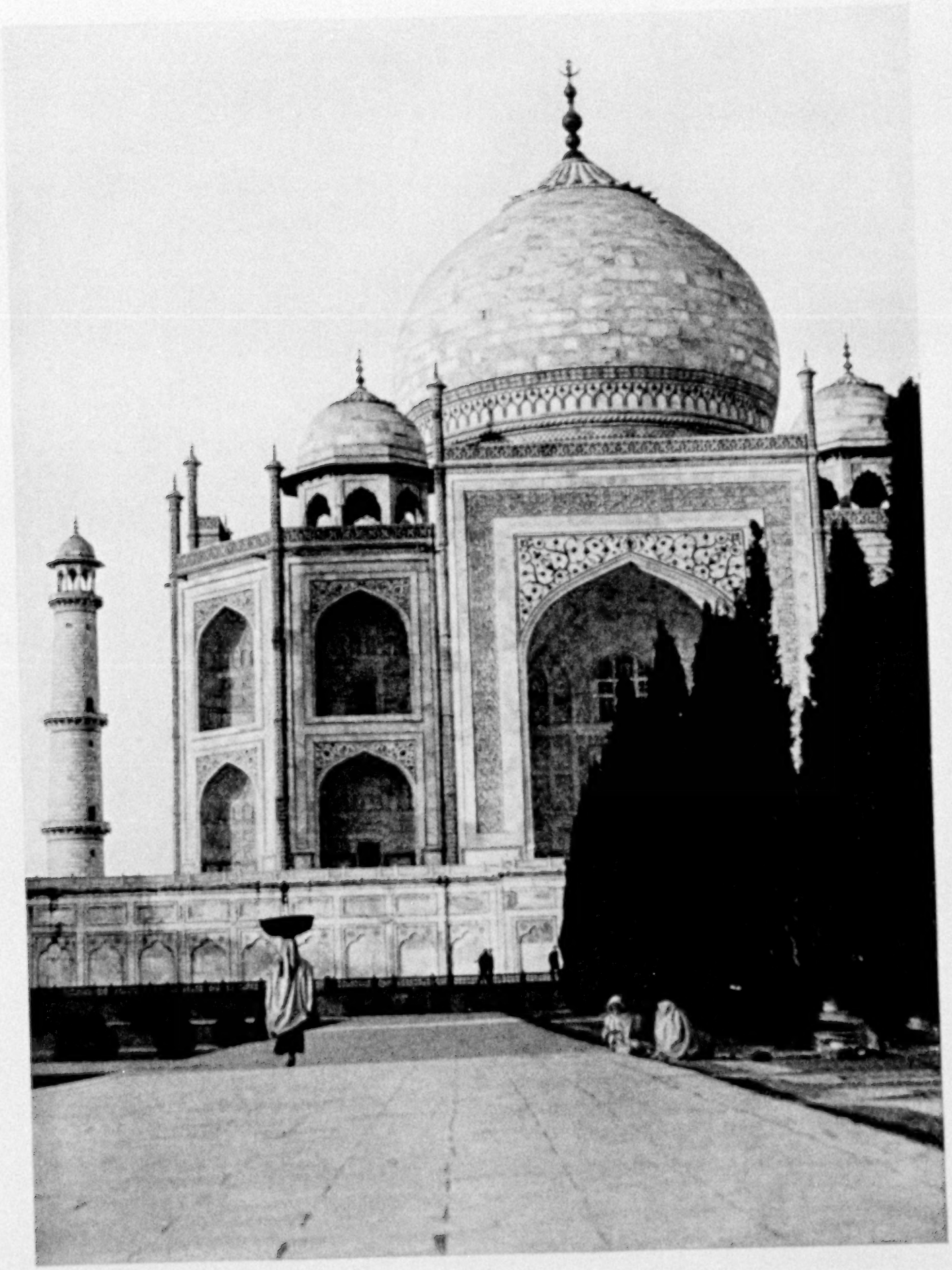
### GETTING PICTURES OF MOSLEM WOMEN IN EGYPT

It is harder to get a man to pose for a photograph than it is to get a woman's picture. On the other hand, one can take a man's picture without asking permission and run little risk of causing trouble.



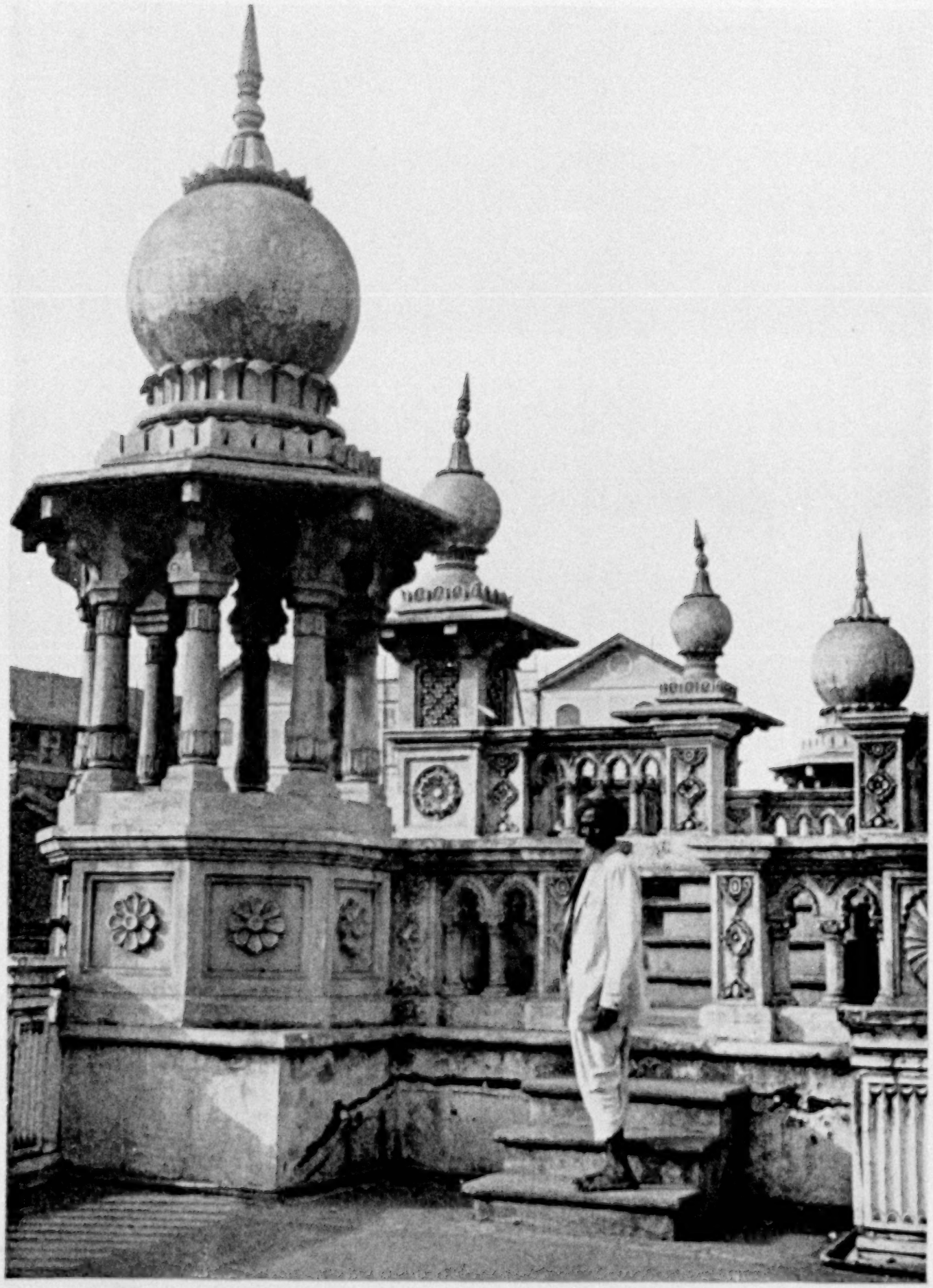
KEEPING GREEN THE SETTING OF "THE CROWN LADY'S TOMB"

The beauty of the Taj Mahal is unchanging, but the emerald setting is continually being renewed. Trees become so large that they shut off a view of the gem of all buildings and have to be removed. The "dream in marble" also gains much of its charm from the opalescent tints which touch the murky waters of the Jumna at sunset time.



A HUMBLE SERVANT AT THE TAJ

Not every visitor to Asia's loveliest building realizes how much of its beauty depends upon the perfect care taken of the gardens, which form a splendid setting for the mausoleum in which Shah Jahan and his beloved Mumtaz i Mahal lie buried. The monument is the more remarkable in that it stands in a land where polygamy is common and where women do the most menial labor.



SCULPTURAL DETAILS OF A BOMBAY MOSQUE

With tungsten filament lights in the mihrab, or prayer niche, with electric fans plentifully supplied, with clean matting on the floor and a clock to prevent religious fervor from wearing out patience, this Bombay mosque is well equipped to make a strong bid for favor.

TWO YOUNG BOMBATHERS ON THE BEACH

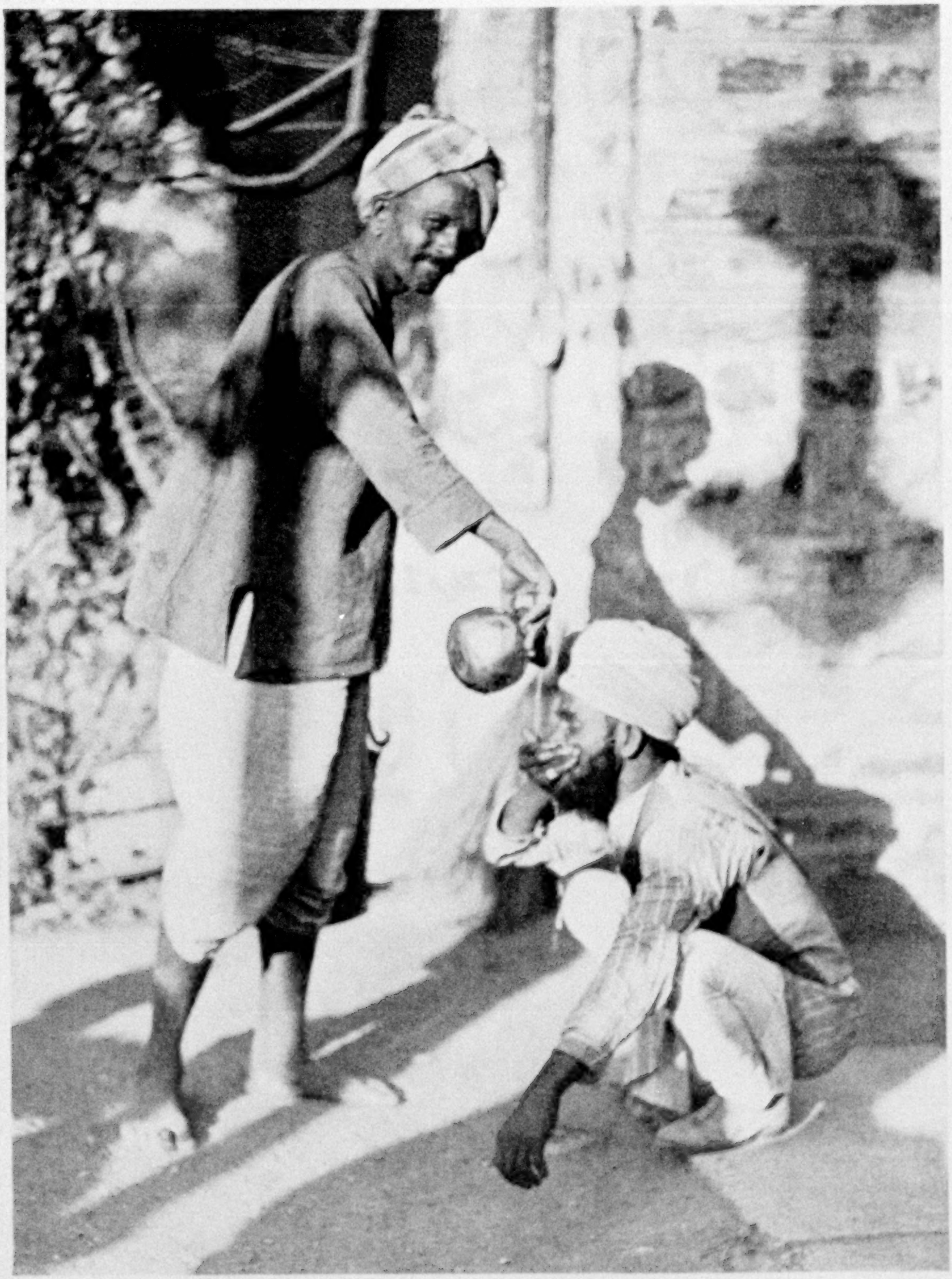
Between the Fort and Malabar Hill, at Bombay, there is a long line of beach which is very popular with the natives. There are no bath-houses, but each bather brings an extra costume. One serves as a screen behind which the dressing or undressing is carried on. The wet garments, after the bath, are dropped to the sand within the protecting circle of the clean garments, which are then donned, and a few sweeps of the wet sari against the hot air serve to dry it thoroughly.

while it is dangerous to take pictures of some of the women of *harem* or *purdah*, whether they are veiled or not.

In Cairo a Moslem woman with most hypnotic eyes was dictating a letter to a professional letter-writer. She sat perfectly still and looked straight into the camera when I asked her in sign language if I might take her picture. Obviously she was a person to whom I could not offer money, but I thought that such a woman would like to have a copy of the picture sent to her. The letter-writer, it developed, spoke English, and I was so grateful to this fair Egyptian for this unusual opportunity that I asked him to tell her that if she would give her address I would send her a print.

"If her husband know she let you take picture, he beat her," replied the scribe after a hurried consultation.

But out at the Pyramids two women



AN ORIENTAL SANITARY DRINKING FOUNTAIN

Eastern lands have their advantages, and among antagonistic races and faiths there are ways of living without offense. Syria has its nozzled jug from which one may drink without touching his lips to the vessel, and here in Udaipur, India, a Brahmin is giving water to a Mohammedan without danger of contamination by either, unless the Brahmin's thumb overreaches the brim of the brass bowl.

AN AINU SAINT NICHOLAS OF SHIRAOI, HOKKAIDO, JAPAN

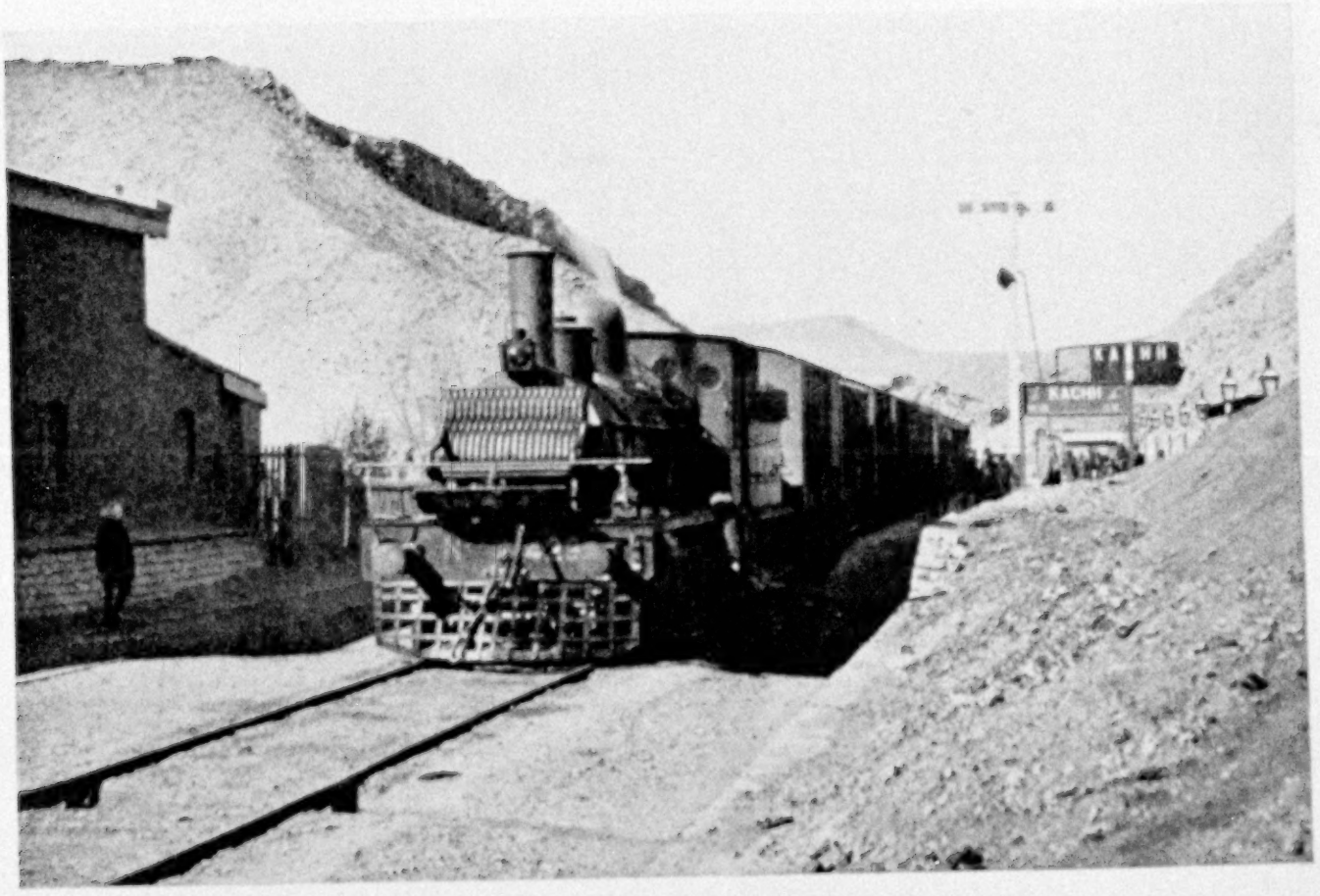
The tanbark headdress which this Ainu chieftain wears is a prouder crown than many that are still worn in other parts of the world. Bear hunting furnishes the inspiration for many an Ainu tale, and, when the clans gather, a bear dance, in which grave men and ugly women with moustaches tattooed on their lips join, is always the head-line act.

ELEPHANTS ARE STRONG ADVOCATES OF SHORT HOURS

In Ceylon the beasts of labor are worked only during the morning. By noon they are lying in the water of some palm-fringed stream, having their hides softened with plenty of water and coconut husks, briskly applied. Pachyderms do not have tender skins, but care has to be taken to see that they don't crack.

AN OPIUM POPPY FIELD IN FUKIEN PROVINCE

In the spring of 1919, when this picture was taken, the Chinese burned millions of dollars' worth of foreign opium in specially built furnaces at Shanghai; but the Chinese war lords of North and South induced the peasants in the region occupied by their mercenary armies to plant opium poppy in order to afford quick revenue.



AN OBSERVATION SEAT ON A TRAIN IN BRITISH BALUCHISTAN

One of the weirdest scenic routes in the world lies between Sibi and Quetta. A more direct though steeper route has largely superseded the Harnai loop, but the traveler is well repaid for abandoning the express and taking the trip through the barren hillocks which characterize this part of the world. With the thermometer at 25 degrees, this observation seat affords all the fresh air and wide prospect that any passenger could ask for, but it is only placed on the engine by special order of the railway officials (see text, page 91).

gladly let me take their pictures, both veiled and unveiled, and although neither would tell me where I could send her a picture direct, I did send photographs to the husband of one, while the other had her picture sent to her through her camel-driver!

### AN ENCOUNTER ON THE BATHING BEACH AT DELHI

At Delhi there is a long sand-bar beside the River Jumna, where thousands of men and women bathe in the murky water. Here and there are small shelters in which the high-caste women change their *saris*, but the whole riverside is one vast open-air dressing-room, without a trace of immodesty on the part of any one. Food-sellers and hawkers of toys and notions dot the sands and the whole scene is a blaze of color and movement.

A six-foot foreigner wearing a glaring white sun helmet and carrying a camera has about as much chance of hiding in such a crowd as the man who sneezes while the tenor is climbing to his prize note, but I took several photographs of the crowd without any one showing hostility.

Then there came up a man who, by wearing a spotless turban, a well-pressed Prince Albert, and trousers rolled up to his bare knees, and carrying neat button shoes and ungartered socks in his hand, formed a fit subject for a photograph himself. Strangely enough, it did not occur to me or to him that he would do as a model for an art study.

He told me that I really ought not to be taking pictures of the people. "Especially the women," he said.

"Why not?" I asked, just as though I was accustomed to seeing the outside world changed into a boudoir.

"All these women are in *purdah*. No man must look upon them," was his startling reply.

"How do you know there are any women here, then?" I asked.

At that moment a dusky queen passed

A HIGH-CASTE MOHAMMEDAN WOMAN OF ONGOLE, INDIA

Although Mohammedans keep their wives in close seclusion, the husband of this Moslem lady was so grateful to a Christian medical missionary for saving the life of his boy that he allowed a friend of the doctor to take her photograph dressed in her best silks and jewelry. The banks of India are wrists, ears, and ankles.

us, just as she had emerged from the water, with her gaily colored *sari* plastered to the lower portion of her body and with her well-built figure doing graceful imitations of a quickened Venus.

"That woman is in *purdah* and no man should see her," he replied, without denying that he did see her.

"I'm afraid she is not quite what I want, anyway," I replied. "But if she really desires seclusion, I think a Mother Hubbard would help a lot."

Women gladly consent to being photographed if they think they are well dressed, but woe to the photographer who attempts to take a picture of a woman in what she considers is not becoming to her!

### FEMININE VANITY ON THE BANKS OF THE BRAHMAPUTRA

Our motor bus dropped down from Shillong to the banks of the Brahmaputra and stopped beside the little railway sta-

AT THE FOOT OF THE SHWE DAGON: BURMA

The famous pagoda at Rangoon attracts worshipers from all parts of the East, but at festival times the huge terrace from which the golden bell temple rises is the scene of gaiety. Impromptu picnics are held beside the many shrines which cluster about the main pagoda, a temporary stage is set up for the dances, of which the Burmans are so fond, and the big white cheroot demands a large place in the picture.

tion at Gauhati. It was to wait there for a few minutes before going on to the ferry crossing at Pandughat. So I shouldered my camera and went off to utilize the time. Seeing a very interesting old woman in the bazaar, I pointed to my camera and asked if I might take her picture. Her reply was to jump up with an alacrity surprising in one of her years and disappear into her home. Once safe in the shadow, however, she turned and signaled me to wait.

Down the village street, the motor bus soon turned the corner with a roar. Knowing that the Assam mails were in the body of the machine, and that time and tide set the tradition for the King's mails, I started away; but out from that doorway stepped my genial friend, proudly bearing up under the greatest weight of jewelry that I ever saw one woman wear.

While the mail waited and the motor horn honked, I took several pictures of the happy old lady, and then, with the last film wound from the roll, I snapped

A TELEGU MUSICIAN ACTING AS DRUM CORPS FOR A RELIGIOUS PROCESSION NEAR ONGOLE, INDIA

In the East the traveler is seldom out of earshot of some form of a tom tom to whose exotic tempo strangely dressed natives dance, march, or worship.

the shutter a half dozen times just to let her know that her kindness and fascination were appreciated.

### USING A CAMERA IN JAPAN

Sometimes a photographer is embarrassed by official kindnesses. In Shiraoi, in Hokkaido, the Japanese were making a well-meant but vain attempt to inculcate into the Ainu their own love for bathing. As an aid to this object, they had built a bright new bath-house in the midst of the hovels in which the Ainu dwelt.

I was the guest of a Japanese official, and the right to take the official photograph of this auspicious occasion had been given to a commercial photographer. I had no desire to buy a formal picture of this group, in which the Japanese, clothed in Western dress, mixed with the fine-looking old Ainu chiefs and their wolfish-looking sons. I hinted as broadly as possible that I would like to secure some poses of my own, but all in vain.

One of the Japanese officials might be smiling or frowning or something, or his frock coat might not be buttoned properly, or his silk hat might not be held at the regulation angle, and an uncensored print let loose on the world might bring the Japanese Government and the Mikado into disrepute.

Until the ceremony was over, I was not allowed to take a single picture. But afterward I was at liberty to take all the pictures I desired, and secured a portrait of an Ainu Saint Nicholas which satisfied me better than would all the silk hats in Dai Nippon (see page 103).

### THE SMILE TALISMAN IN CEYLON

A smile works in all languages and its power of reflection exceeds that of many a mirror. If this funny old world is ever to make friends with itself, it will be the face with the smile that wins. And to get a smile onto the face of an unwilling subject is not easy. Sometimes one has to resort to horse-play to get the people in good humor, and even when well-intentioned fun overshoots the mark, it is well to have established an atmosphere of friendliness.

One of the great prizes to the people of Asia is the tin container from which a film has been removed. These can be given away where money would introduce an undesirable element into the relations. But usually there are several claimants to the tin tube.

The tiniest baby is always entitled to first chance, but when the claimants are all of an age, I have had to decide by the ancient "eenie, meenie, miny, mo" method, and the result is usually great amusement and profound satisfaction by all concerned.

In Negombo, Ceylon, one small boy suggested that I throw the tube and let them scramble for it. That worked admirably the first time. But there was a small lad who seemed to lack strength or spirit and he gave signs of thinking that that was not a square deal.

All the boys were barelegged and I stood near the edge of a shallow pool. This small boy was nearer to the water than the rest; so, while pretending to throw the second tube ahead of me, as I had the first, I tossed it over my shoulder into the water. It fell quite near the disconsolate youth, but others were quicker. A more agile boy rushed for it and, stumbling over a guy rope, fell sprawling into the water.

### WORKING AGAINST SUPERSTITIONS IN THE ORIENT

There was nothing for me to do but laugh as loudly as the rest, and when the boy picked himself up with the prize in his hands and a smile on his face, every one was happy. But I was glad that he did not wear a Little Lord Fauntleroy suit and a broad, starched collar, and that I had made friends with the crowd before the accident happened.

Throughout the Orient there are innumerable superstitions which make it difficult to secure personal photographs. Not only are Oriental men jealous of their women folk, but there are few places where the illiterates do not have some fear of the evil eye. Many fear misfortune if their picture is taken, and there are still Mohammedans who have a religious objection to lending themselves to the representation of living beings. A people who have made caligraphy their ideal of art do not readily lend themselves to portrait work.

XUM

"LA PIAZZA," REMINDER OF THE GLORY OF VENICE

Neither uniform nor deep-fringed shawl, straw hat of tourist nor gay pennons, can bring back the proud days before Vasco da Gama humbled the queen city of the Adriatic. But in the evening, when the pigeons have gone to perch under the rich arches of the great cathedral with its Byzantine domes, when the marble pavement is edged with tables and chairs, and a Venetian band is playing "La Paloma," the Piazza of St. Mark is a place which intrigues one's interest and inspires long and tender memories.

Many fear that if their photographs are taken their bodies will waste away. This belief is especially common among the Ainu, and some photographers have risked their lives because of their indiscretion in photographing those who are obsessed by such fears.

When there is a flat-footed refusal of the right to take pictures, one must desist; but ignorance of the language spoken by the people helps a great deal. Most people are shy about having their pictures taken, but this shyness quickly melts before a sincere smile, and when to apparent friendliness is added the pitiful spectacle of lingual helplessness, there are few who can refuse the respected foreigner's request.

### A PHOTOGRAPH THAT REPRESENTS GRATITUDE

Many a Moslem husband has allowed me to photograph his women folk, and the toleration of these people in letting visitors see and photograph their mosque services is worthy of mention; but the most memorable case of Moslem magnanimity of my experience occurred in Ongole, where a Christian missionary had saved the life of an Indian Moslem's son, and this man, out of trust and gratitude, allowed me to photograph his family, with his wife unveiled, because I was a friend of the doctor (see page 106).

Throughout the East there is a hearty response to genuine friendliness. The native is not accustomed to familiarity with the white man and at first he resents it, because he does not understand the motives, but I have never met with anything other than the utmost politeness among the common people of Asia.

More troublesome than those who resent having their pictures taken are those superactive and ubiquitous imps who insist on being in every picture. One lad bothered me a great deal when I was trying to photograph a street scene in Buddh Gaya, India, though obviously he had as much right to the locality as did I. Since I could not remove him, I tried to get him to loosen up his frame a little and look more like Tom Sawyer and less like a monument. When I had shown him how to do it, and returned to my place, I turned to find him doing a scarecrow dance that would have won plaudits in the "Wizard of Oz" or done credit to Saint Vitus himself.

In the spring of 1919 the Chinese burned millions of dollars' worth of opium, not individually, in small doses, but collectively, in huge incinerators opposite Shanghai. At that time I was in the interior of Fukien, in the bandit-infested region between the Northern and Southern troops, and passed through wide fields of opium poppy which the people had been induced to plant so as to afford quick revenue to the war lords who were then ravaging the province.

A friend, to whom I mentioned my desire to get a photograph of this condition of affairs, said that if I attempted to photograph opium poppies the Chinese would probably try to destroy my camera, as they had no desire to be thus convicted of duplicity. I took a score of pictures in the poppy fields, showing the cultivation of the opium plants and the gathering of the milky juice from the poppy pods, but no one showed the slightest objection.

In Japan I met a man who was roundly condemning the Japanese for preventing foreigners from taking pictures and who was exceedingly surprised to know that, outside a few fortified areas, a camera can be as widely used in Nippon as in the United States.

He had attempted to take forbidden photographs at Nagasaki and had been so badly frightened by the police that he packed away his camera for weeks. Yet even in Nagasaki the government would gladly have furnished him a police officer, under whose surveillance he could have taken any legitimate views.

### A RACY ENTERTAINMENT AT BEIRUT

While wandering around the waterfront in Beirut on one occasion, I saw a group of porters paying good money to look at a small peep-show which, judging from the laughter, was not of the most elevating variety. A little shamefacedly, I paid my *metalik* and looked at the exhibition.

I certainly got my money's worth, if side-lights on foreign life are worth anything. Four of the pictures were cover

drawings from a popular American weekly magazine, with the full title left on and nothing added. A fifth was a foreign calendar issued by one of the shops of Beirut. It was a very racy entertainment for those barbaric burden-bearers, but there are few American mothers who would not have given such pictures to their five-year-olds.

Throughout northern India there wander Kashmiri musicians, usually with a young boy dressed in girls' clothes to dance to their exotic music. In Rawalpindi the native Christians were holding their Christmas entertainment outdoors on the campus, and a band of these musicians strolled up to watch the games and listen to the recitations and songs, such as a Christmas program produces in every corner of the world.

Their eyes glistened at this ready-made audience and the promise it gave for profit if they could only substitute barbaric music for hymns and sinuous dances for obstacle races; but the missionary tactfully explained that the program was already a long one—the Kashmiri was not familiar with Christmas programs—and that there would be no chance for them to entertain the Sunday-school scholars.

The wistfulness of those poor minstrels, standing outside that gay crowd, with presents being distributed and everybody radiant with the Christmas spirit, and being unable to contribute to the entertainment was a memorable sight. They seemed to feel as badly as a pickpocket would at not being asked to perform before a millionaire Sunday-school class.

### THE TRAGEDY OF "THE" PICTURE

Out in Beirut, Syria, the day came when I secured THE picture. As soon as the shutter snapped, I knew that I had a wonder. In the dark room the plate surpassed my fondest hopes, and I think I dreamed that night of the wonderful picture which I had put out to dry on the window-sill.

With the coming of daylight I went to look once more at my treasure. The weather at that season was damp and the emulsion was still wet; but the picture was more beautiful in the soft light of early morning than it had been by lamp light. I shaved with a song on my lips. Deborah might have composed the words, if there had been any. Triumph rang from every note.

Then the sun rose over the Lebanon, whose lofty line, punctuated by snow peaks, faced my window. The quick warmth of the Oriental sun promised to dry the plate quickly after the muggy night. I went back to the window to gloat once more. The dream picture was a black smudge on the limestone ledge. Phœbus had glimpsed the beauty and had melted the emulsion on the plate like the wax on the wings of inordinate Icarus.

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This quickness at home is just great.
You don't catch me getting in late,
For this is my inning, and Campbell's is winning—
You'll never beat me to the plate.

# Right for the home plate

It's good to get home when you know that right there waiting for you is a plate of delicious hot soup, to take the tiredness out of your hunger and start you naturally on the quiet enjoyment of your meal.

## Campbell's Tomato Soup

Gets its wonderful flavor and tonic properties from vine-ripened tomatoes of a selected variety, and from the way they are blended with creamery butter, pure granulated sugar and other appetizing ingredients. Serve it regularly and often. Keep a supply always on hand.

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**Campbell's Soups**

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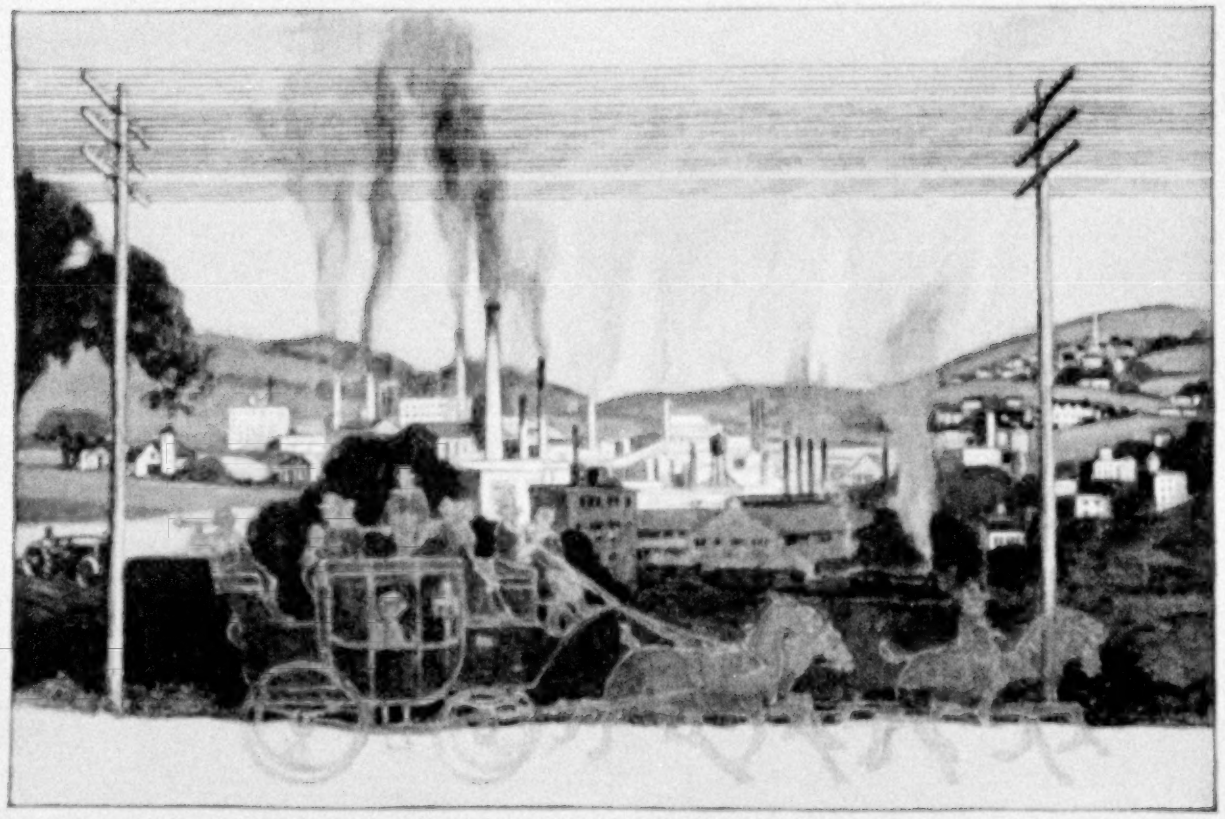

*". . . places far apart are brought together, to the present convenience and advantage of the Public and to the certain destruction, in time, of a host of petty jealousies, blindnesses and prejudices, by which the Public alone have always been the sufferers."*
*From Charles Dickens' Preface to Pickwick Papers.*

# The Advance of Understanding

Even romance of sixty brief years ago could not imagine the great advance heralded by the passing of the stage coach. The railway and telegraph were coming into their own; but the telephone had not been so much as dreamed about.

Yet the wise men of that day saw the imperative need. They saw the value of every step which brought people into closer communication with each other. They knew this to be the one way to increase understanding; and to eliminate the "host of petty jealousies, blindnesses and prejudices, by which the Public alone have always been the sufferers."

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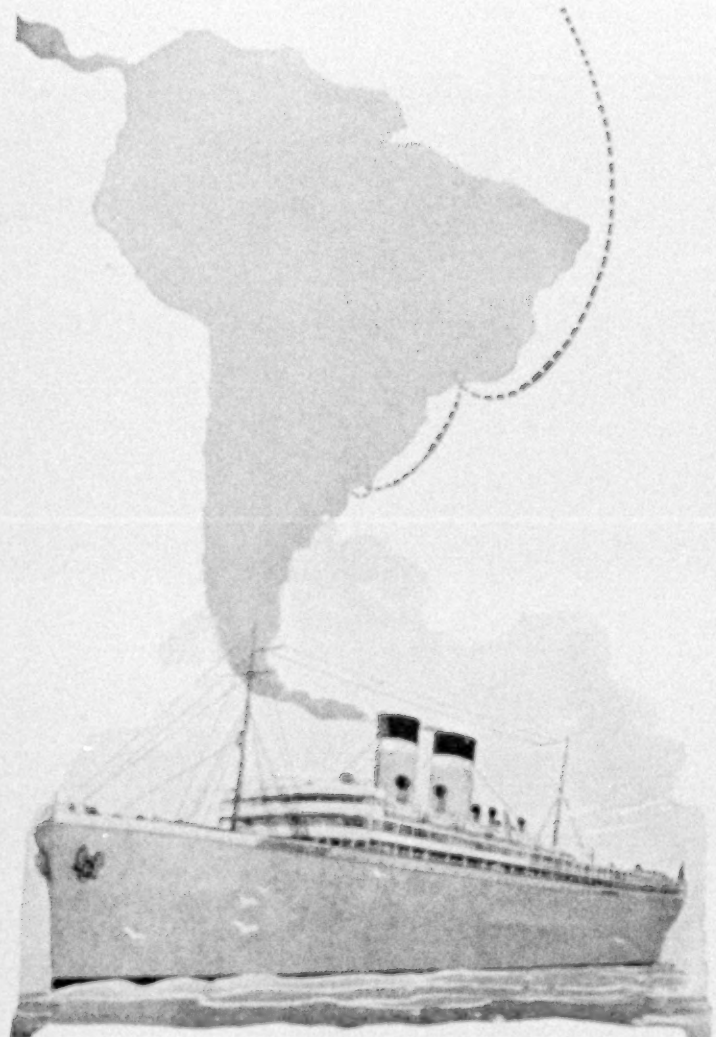

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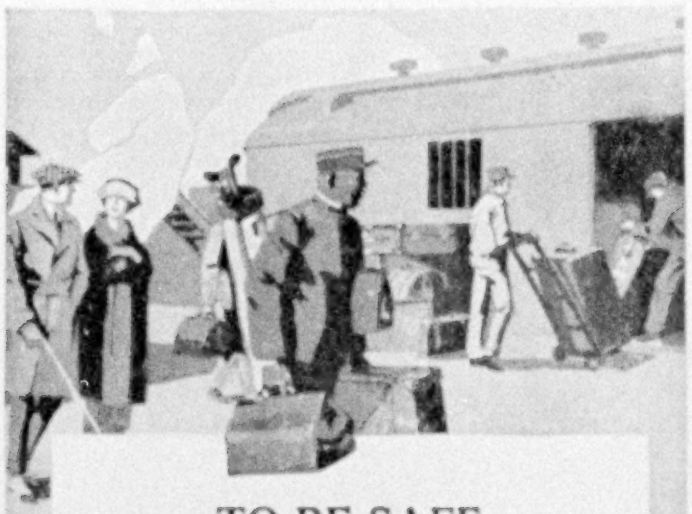

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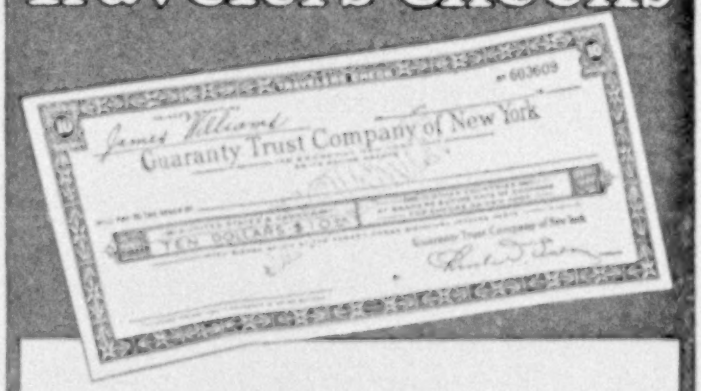


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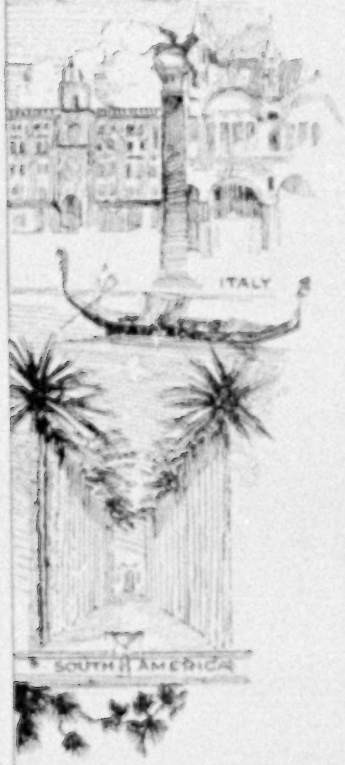

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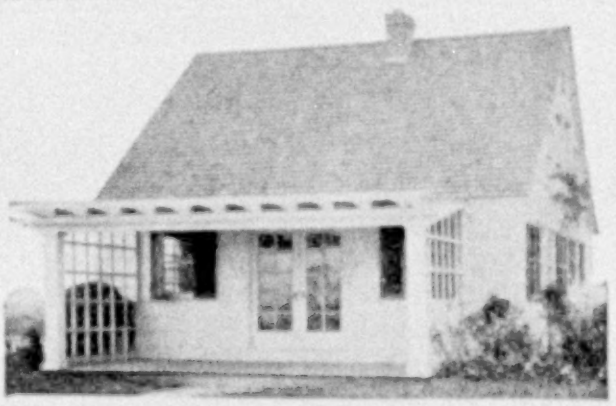

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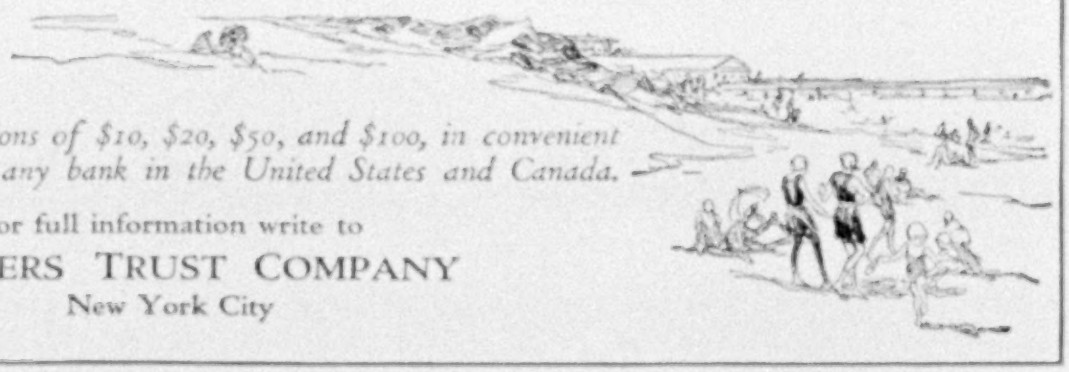

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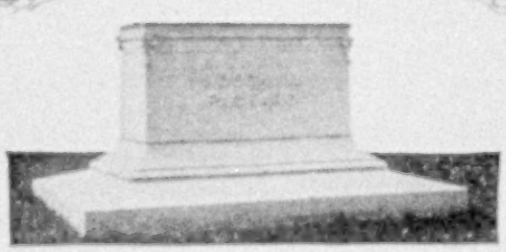

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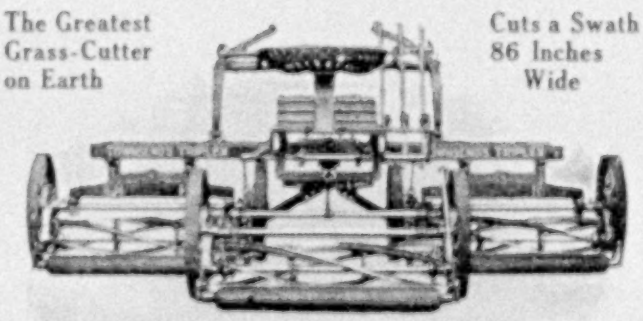

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Ask for this ten-day test. Watch the results of it. See for yourself what it means to your teeth—what it means in your home.

### The film problem

Film has been the great tooth problem. A viscous film clings to your teeth, enters crevices and stays. Old ways of brushing do not effectively combat it. So millions of teeth are dimmed and ruined by it.

Film absorbs stains, making the teeth look dingy. It is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Germs breed in it. They, with tartar, are the chief cause of pyorrhea. Thus most tooth troubles are now traced to film.

### Combat it daily

Dental science has now found ways to daily combat that film. Careful tests have amply proved them. They are now embodied, with other most important factors, in a dentifrice called Pepsodent.

Millions of people now use this tooth paste, largely by dental advice. A 10-Day Tube is now sent free to everyone who asks.

### Its five effects

Pepsodent combats the film in two effective ways. It highly polishes the teeth, so film less easily adheres.

It stimulates the salivary flow—Nature's great tooth-protecting agent. It multiplies the starch digestant in the saliva, to digest starch deposits that cling. It multiplies the alkalinity of the saliva, to neutralize the acids which cause tooth decay.

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### See the results

Send the coupon for a 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coats disappear. Watch the other good effects.

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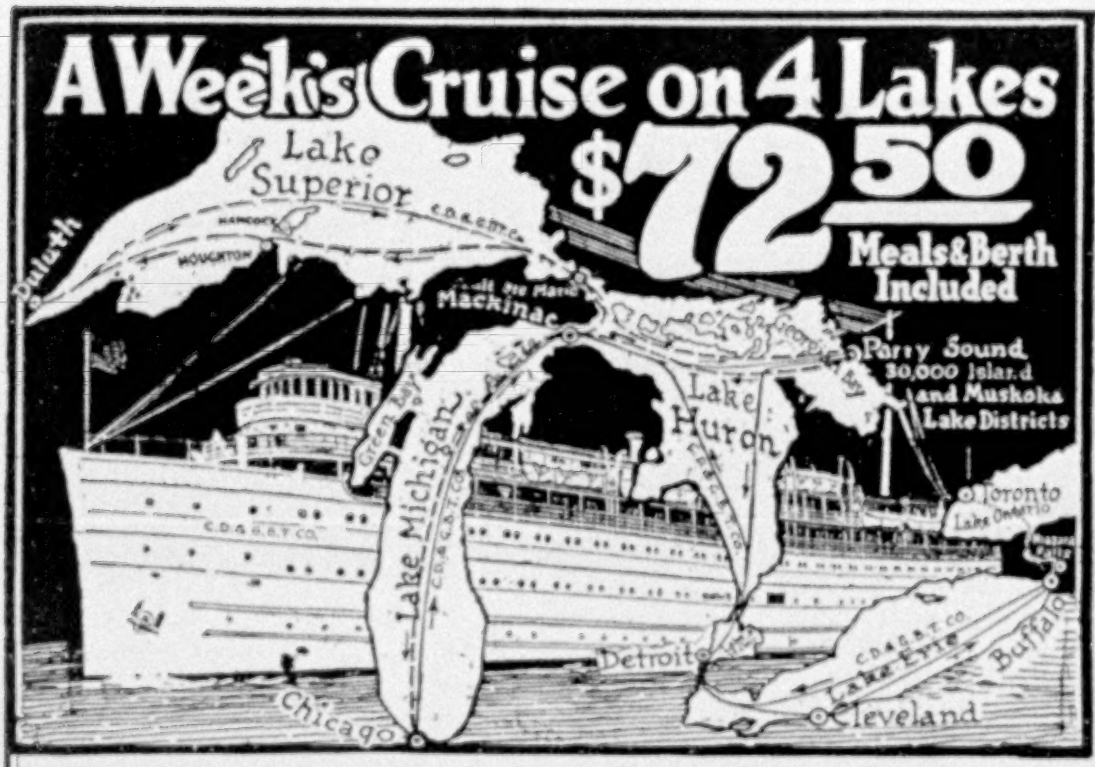


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*Sani-Flush* is sold at grocery, drug, hardware, plumbing, and house-furnishing stores. If you cannot buy it locally at once, send 25c in coin or stamps for a full sized can postpaid. (Canadian price, 35c; foreign price, 50c.)

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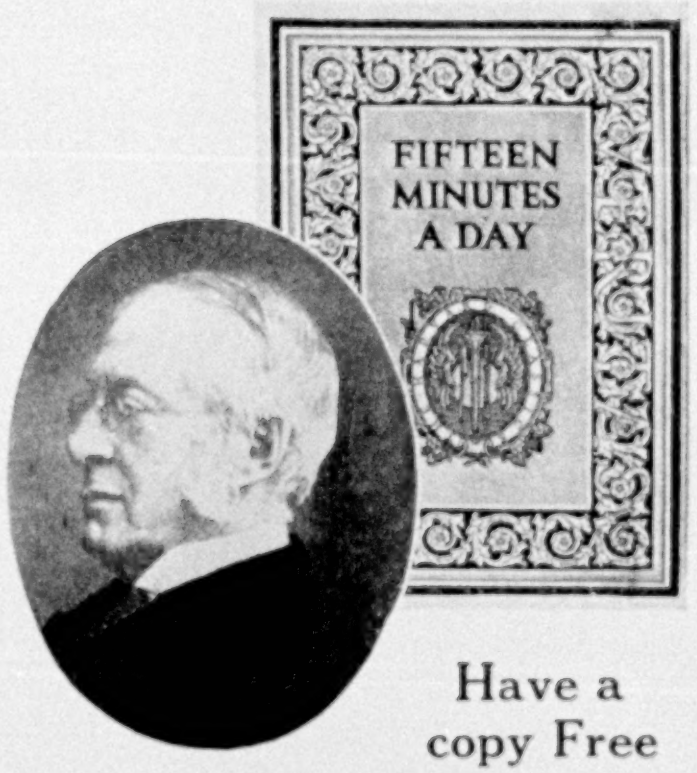


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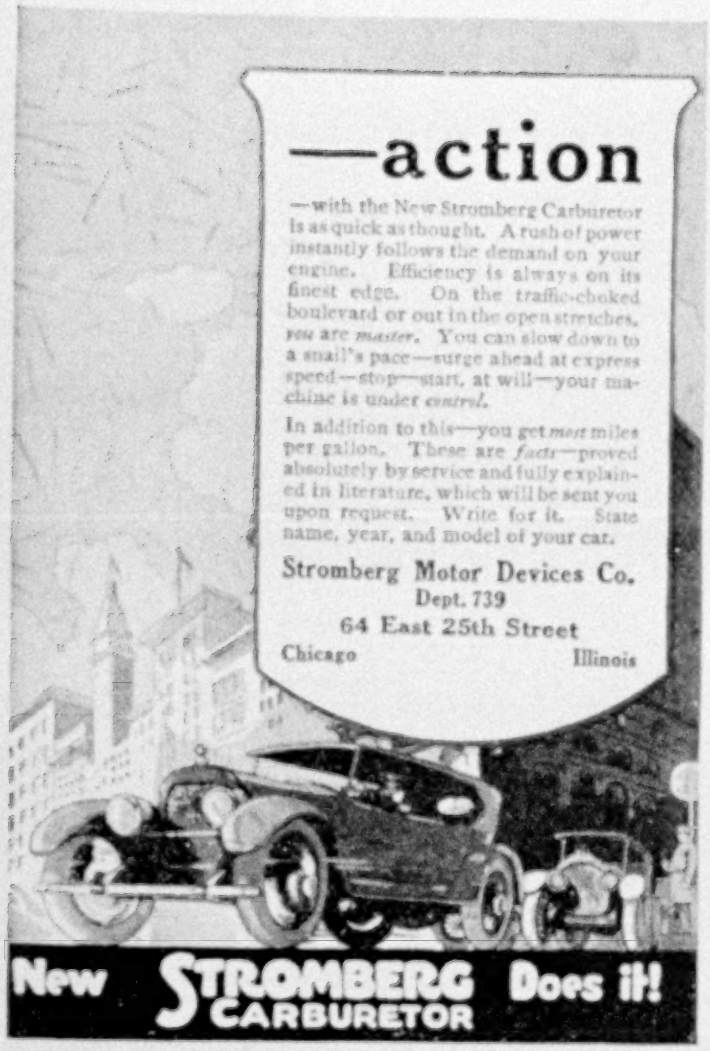

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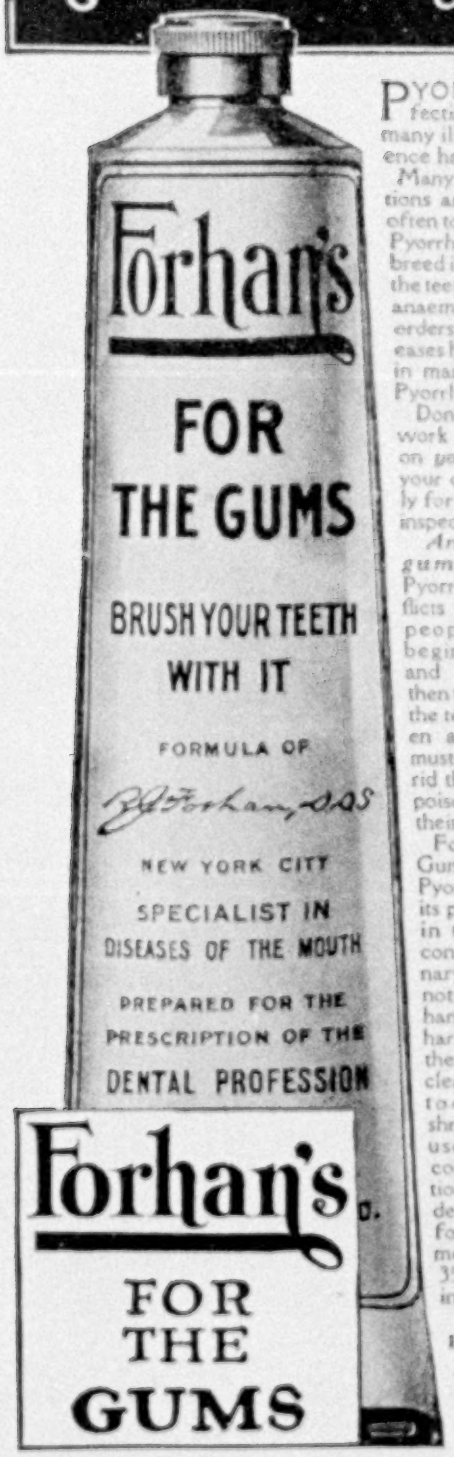
Buescher Band Instrument Co. 384 Buescher Block, Elkhart, Ind.

## The dread Pyorrhea begins with bleeding gums




PYORRHEA'S infecting germs cause many ills. Medical science has proved this.

Many diseased conditions are now known often to be the result of Pyorrhea germs that breed in pockets about the teeth. Rheumatism, anaemia, nervous disorders and other diseases have been traced in many cases to this Pyorrhea infection.

Don't let Pyorrhea work its wicked will on *your* body. Visit your dentist frequently for tooth and gum inspection.

*And watch your gums yourself.* Pyorrhea, which afflicts four out of five people over forty, begins with tender and bleeding gums; then the gums recede, the teeth decay, loosen and fall out, or must be extracted to rid the system of the poisons generated at their base.

Forhan's For the Gums will prevent Pyorrhea—or check its progress—if used in time and used consistently. Ordinary dentifrices cannot do this. Forhan's keeps the gums hard and healthy—the teeth white and clean. Start using it today. If gum-shrinkage has set in use Forhan's according to directions and consult a dentist immediately for special treatment.

35c and 60c tubes in U. S. and Can.

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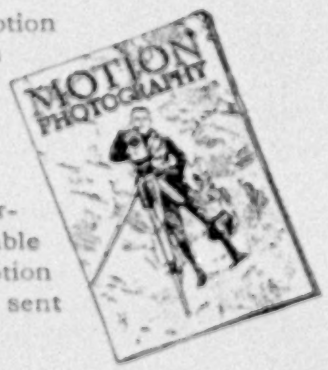


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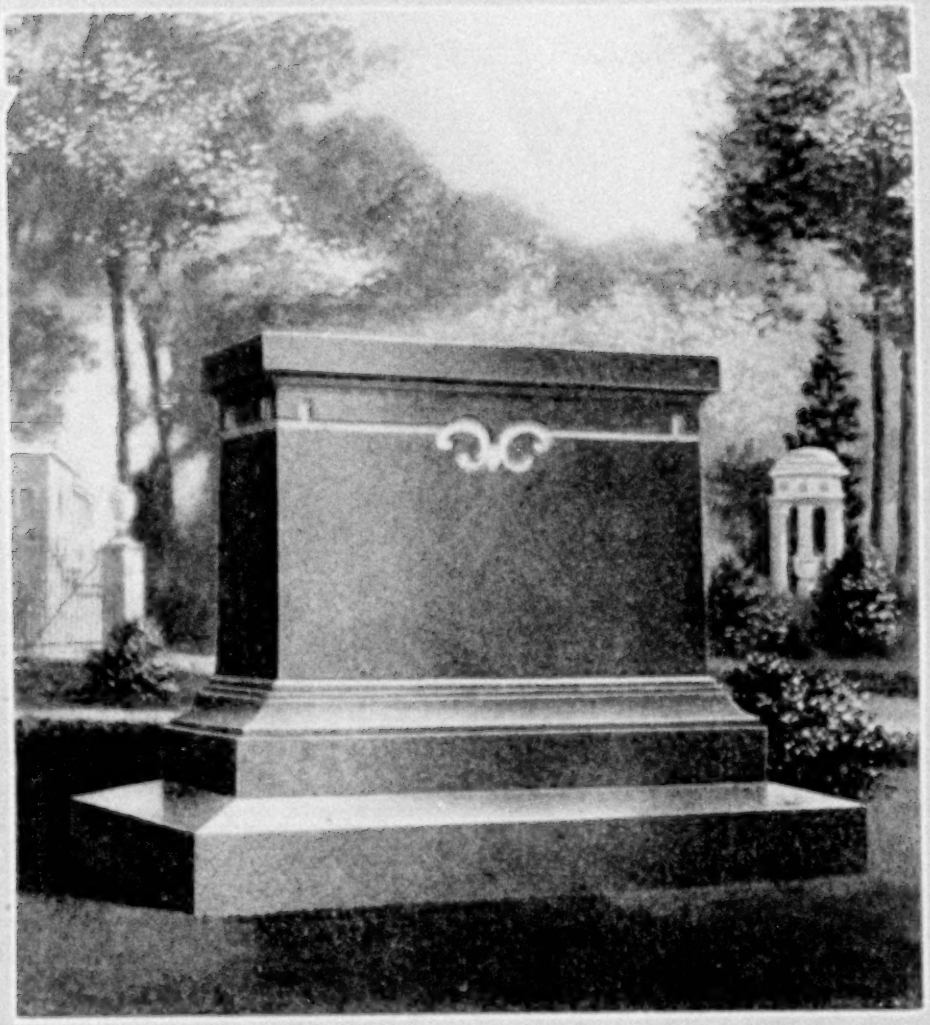

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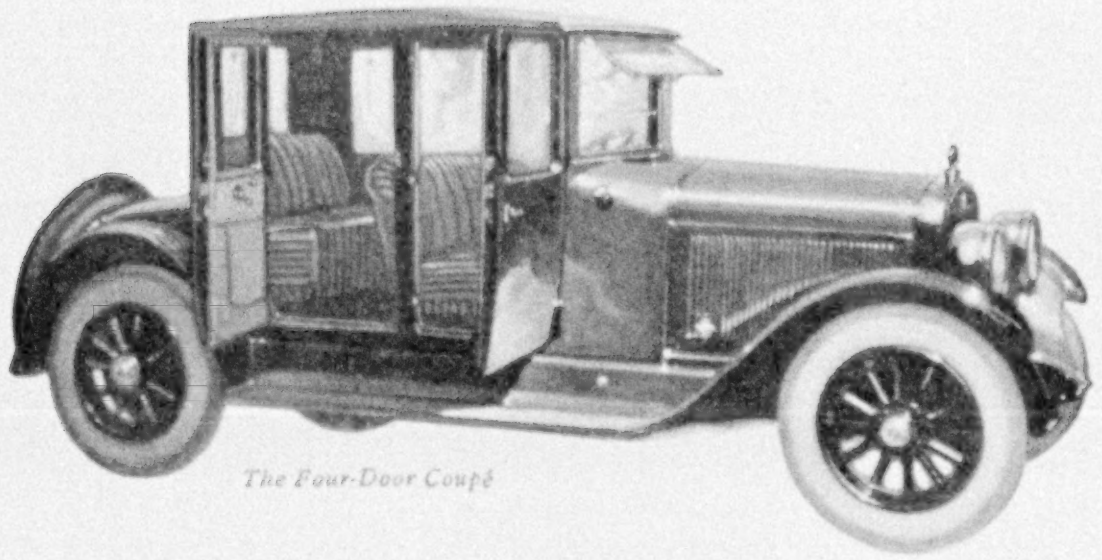

*The Four-Door Coupé*

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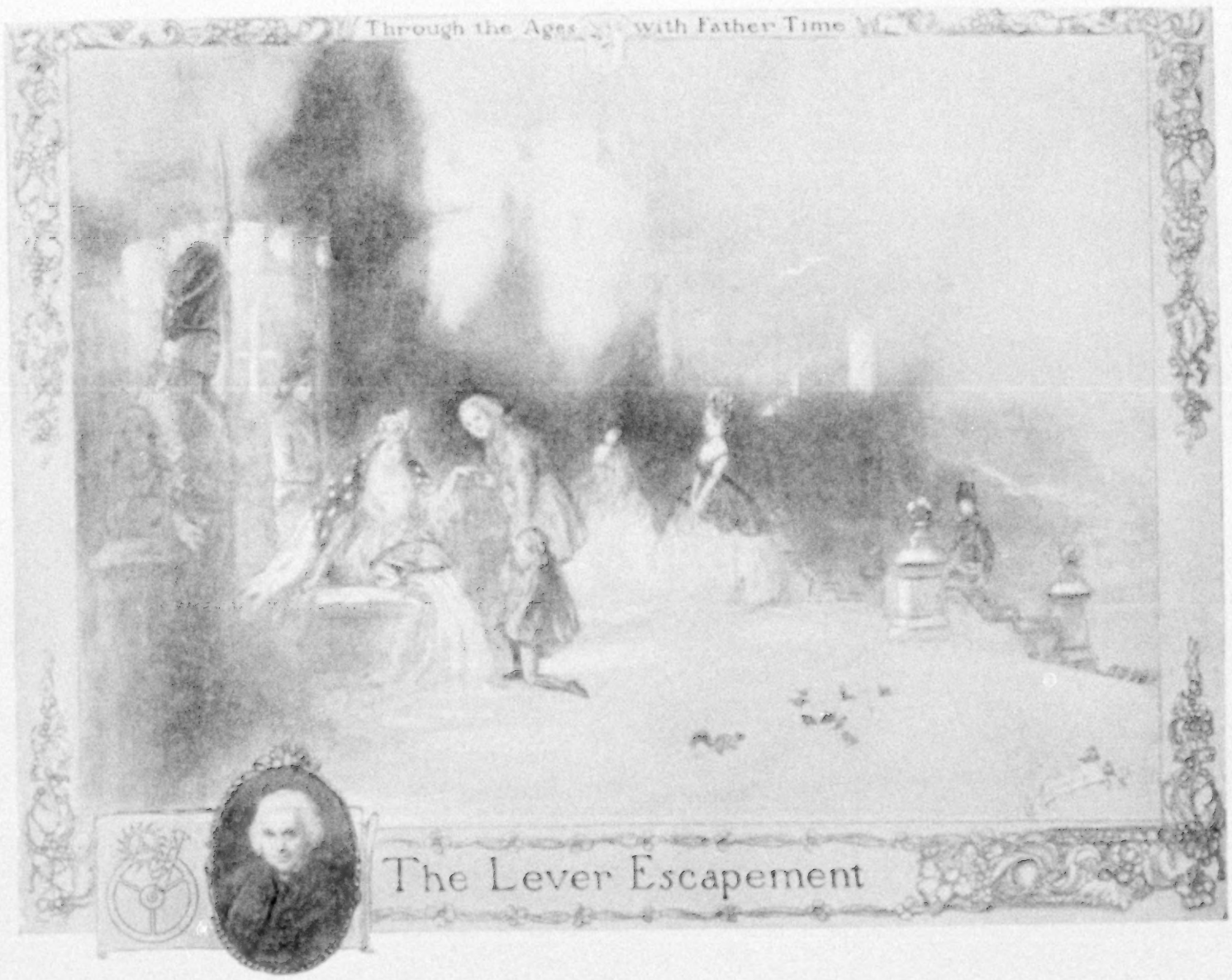


*Mudge and his invention — "the best of all escapements," Britten calls it — the device which gives to the balance wheel the impulse that keeps it in vibration * * * *

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